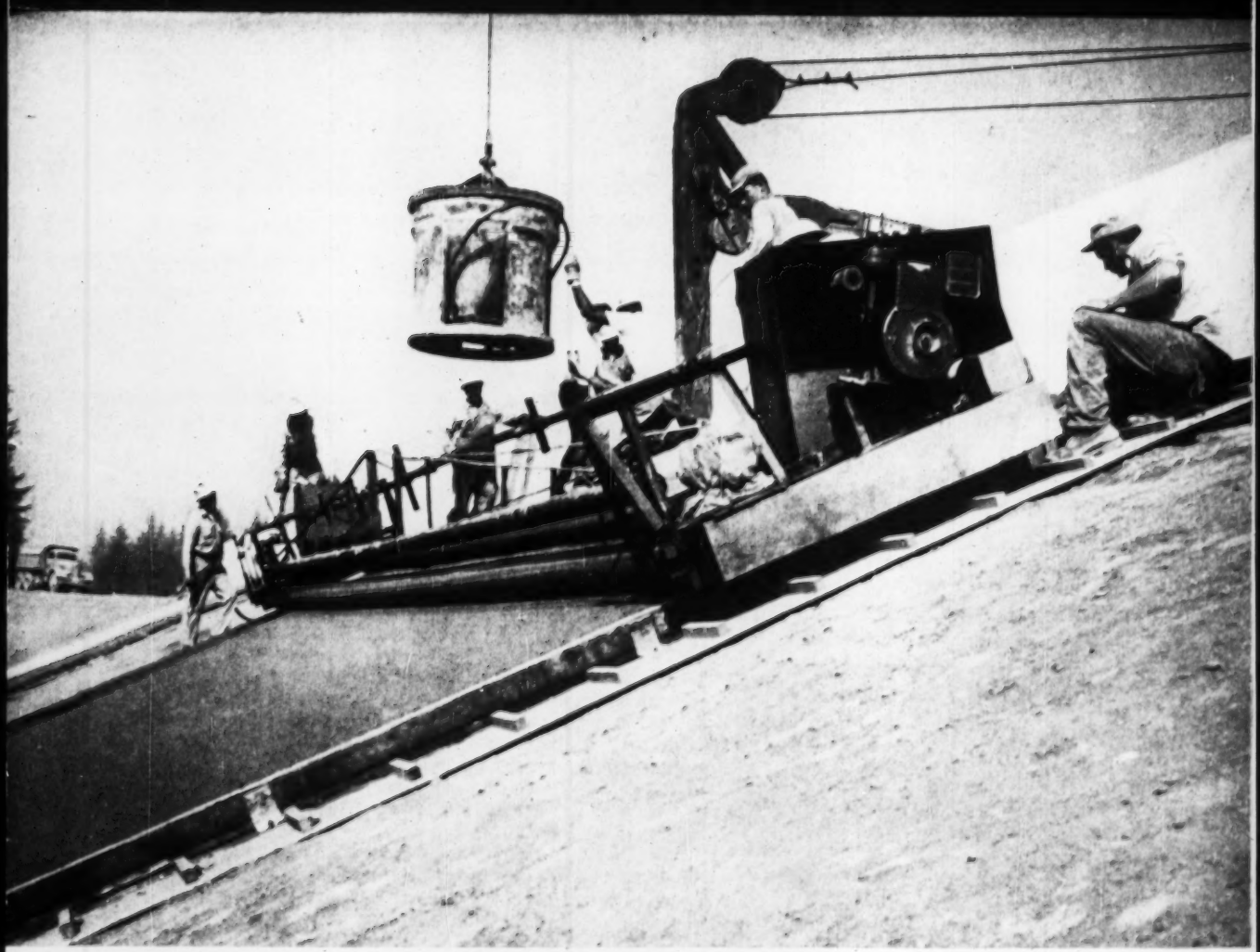
ENGINEERING NEWS-RECORD



Roller screed smoothes wide slab fast p. 34

A McGRAW HILL PUBLICATION

ANN ARBOR MICH
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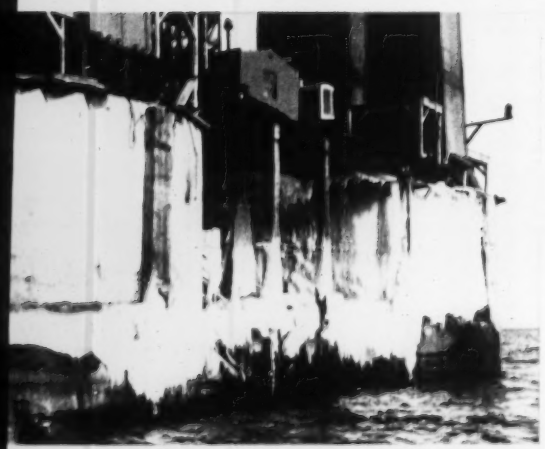
World's longest suspension bridge stretches four miles across the Straits of Mackinac joining Michigan's upper peninsula with the rest of the state.

Wrought Iron Plates protect Mackinac Bridge pilings against double-trouble



Welded wrought iron plates extending ten feet above and eight feet below the waterline, form a bulwark of protection against corrosion and ice.

Engineers on the $100 million Mackinac Bridge faced this problem: what material could most economically protect the bridge's concrete substructure against recurrent wet-dry corrosion and abrasion by ice?

Consulting Engineer D. B. Steinman, New York, met these requirements by specifying over 270 tons of $\frac{3}{8}$-inch wrought iron plates. These plates do double-duty . . . combatting corrosion and guarding pilings against stress and subsequent spalling under dense ice formations.

Wrought iron can cut maintenance costs in your installation, too. Our booklet, "Wrought Iron for Bridge Construction," tells you how and why. Write for a copy.

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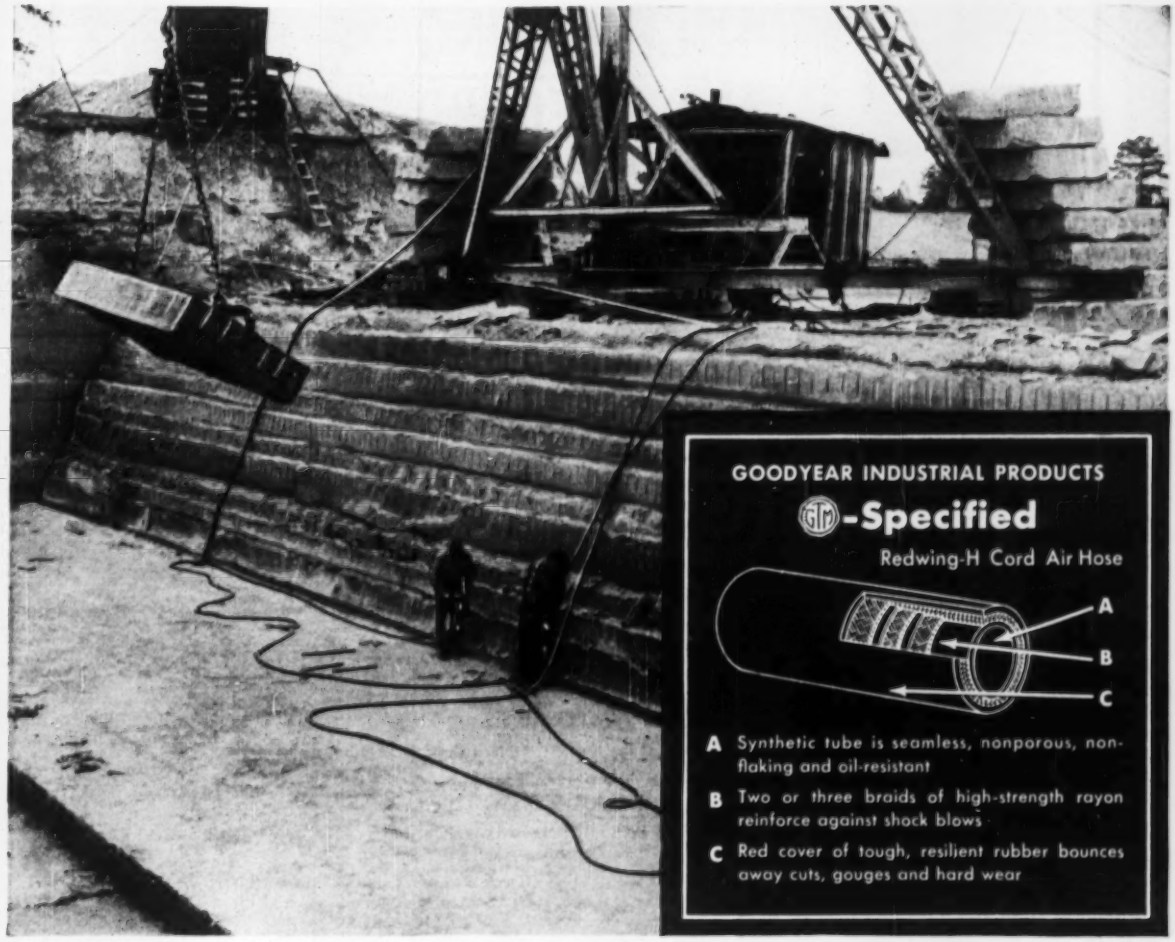
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Redwing-H Cord Air Hose
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B
C
A Synthetic tube is seamless, nonporous, non-flaking and oil-resistant
B Two or three braids of high-strength rayon reinforce against shock blows
C Red cover of tough, resilient rubber bounces away cuts, gouges and hard wear

G.T.M. cuts jackhammer hose costs over 50%

About four months was the average service for air hose on the jackhammers in this Midwestern quarry. Extreme abrasion, cutting and gouging plus direct blows from heavy rock were the reasons for early failure.

REDWING-H Cord Air Hose (see blueprint) was specified by the G.T.M.–Goodyear Technical Man. This rugged hose takes the beating in stride–lasts over a year–three times as long–cuts costs by more than half.

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REDWING-H CORD AIR HOSE by

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against corrosion and ice.

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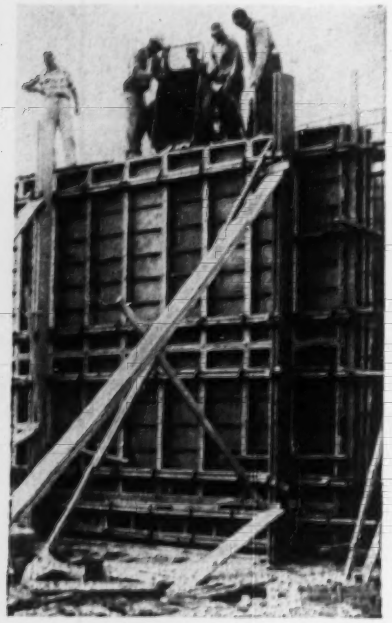

Pouring Costs Cut 25% with Symons Forms . . .

Joseph R. Farrell, Inc., Philadelphia, general contractor, saved more than 25% in pouring costs on the new Cardinal Dougherty High School through the use of Symons Forms. 5,522 feet of Symons Forms were purchased for the job, and were used more than eight times. A total of 50,000 square feet of forming was erected for the 1600 yards of concrete.

Contributing to the speed and economy of the pouring was the use of 2" x 12" strong backs. The strong backs were held in place by 12" standwall ties used as strong back ties to make the horizontal joints stay plumb for the 18 and 20 foot walls. The strong backs permitted continuous pouring of the foundation walls.

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EIGHTY-SECOND YEAR OF PUBLICATION

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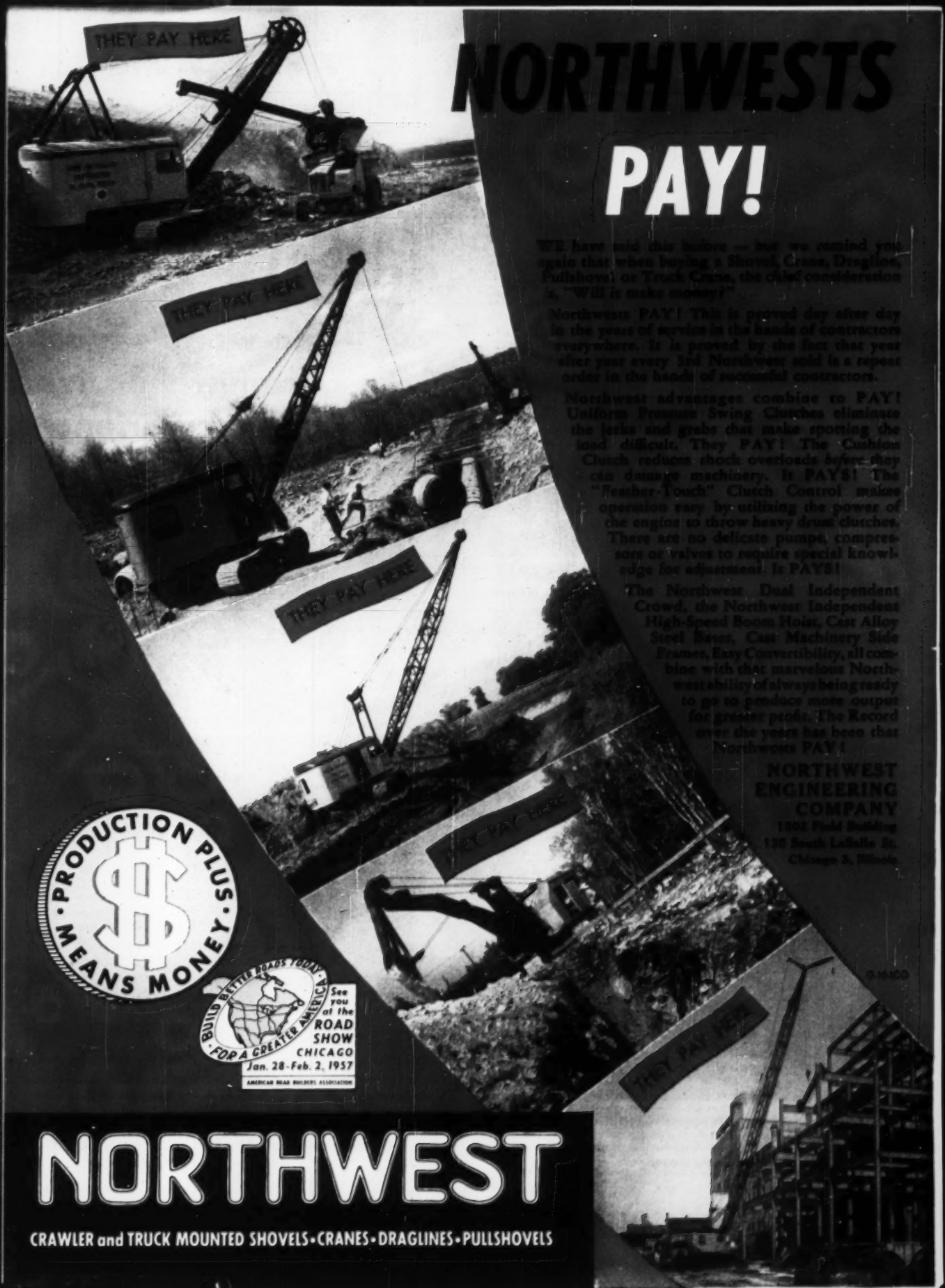
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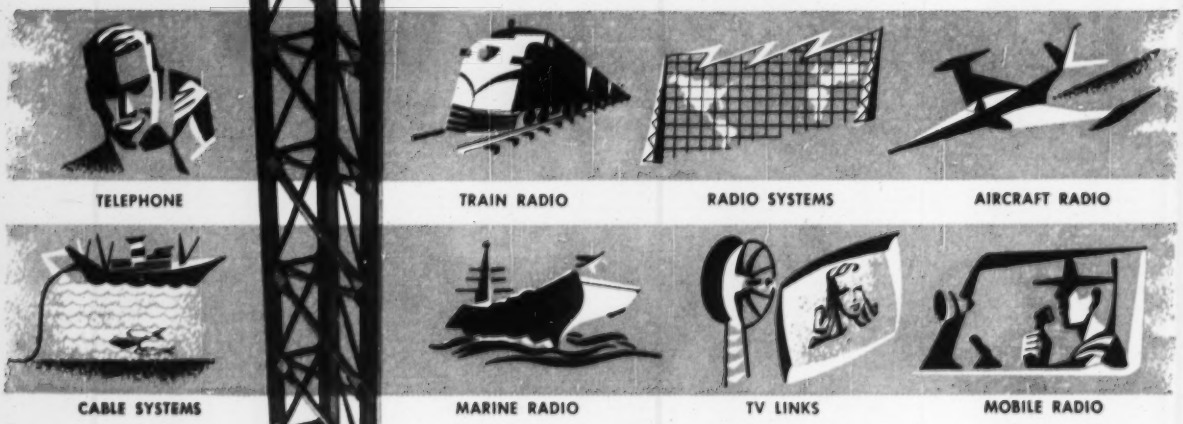

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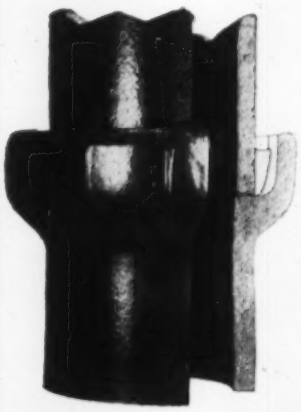

During and following World War II, there were serious shortages of vitrified clay pipe. Production was being channeled into defense and military construction.

In order to meet pressing needs, many cities revised their codes to permit the use of *substitute* materials, instead of time-proven clay pipe.

Today, after facing the severe test of time and service, many of these *substitute* non-clay lines are breaking down. There have been hundreds of pipe failures, which endanger the health and welfare of the community and result in costly repairs.

Field tests on over 100 Amvit installations completed in the last two years show that Amvit jointed clay pipe positively cannot be harmed by sewage. It's strong and rigid, can't sag, rust or pit. Roots cannot pierce the dense, rock-like pipe walls or its tight compression joint.

Specify Amvit Jointed Clay Pipe, in sizes 4" through 24", together with all standard fittings. It is available for immediate delivery in the Northeast and Central States.

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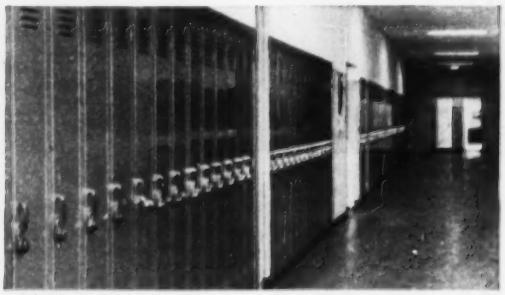
Excellent use is made here of Truscon Intermediate Projected Steel Windows. Fontenelle Elementary School, Omaha, Nebraska; Wallace & Burrill, Inc., Architects; Parsons Construction Company, Contractors.

Floors in the Dutch Broadway High School, Elmhurst, N. Y., are made lightweight and fire-resistant with Truscon "O-T"® Open Truss Steel Joists. Here are strength and safety at low cost per square foot. Do you know about Truscon's new Clerespan® Steel Joist, 96 feet long? Send coupon for details.



These Republic Standard Single-Tier Lockers serve students in the Abraham Lincoln High School in Philadelphia, Pa. Fabricated at Republic's Berger Division, they're part of a big line of steel lockers for every school or factory requirement. Mail coupon for complete data.

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TRUSCON STEEL WINDOWS

Daylight Omaha's New Fontenelle School

Classrooms today are brighter, lighter, and more cheerful thanks to the increased use of windows in school construction. Outside walls, once with limited glass area, are now fabricated almost entirely from windows with the *strength of steel.* The result is better over-all illumination—and vastly improved ventilation.

A splendid example of this new trend in school design is Omaha's beautiful Fontenelle Elementary School, in which two important Truscon Steel Window types were used.

The classrooms, for example, were well-daylighted by Truscon Intermediate Projected Windows that can be custom-built to exact specifications. Specially rolled solid steel sections of original design provide advantageous weathering and attractive appearance. Upper lights can be glazed with one of several types of light-diffusing, glare-reducing or heat-absorbing glass.

Fontenelle's beautiful new gymnasium is equipped with Truscon Donovan Awning Windows that offer superb lighting and ventilation without drafts. Ventilators which operate in unison, either by mechanical control or completely concealed operators, permit ventilation in inclement weather.

These are but two of the many types of Truscon® Steel Windows currently being specified for school construction. Others are: Double-Hung Steel Windows; Intermediate Combination Windows; Maxim-Air® Steel Windows; Truaire® Windows; Architectural Projected Windows. Ask your Truscon representative or send coupon below for details and specifications. Also in Sweet's File.

These handsome Donovan Awning Windows are perfect for gymnasiums. Teacher at Fontenelle Grade School in Omaha is shown regulating them for proper ventilation.

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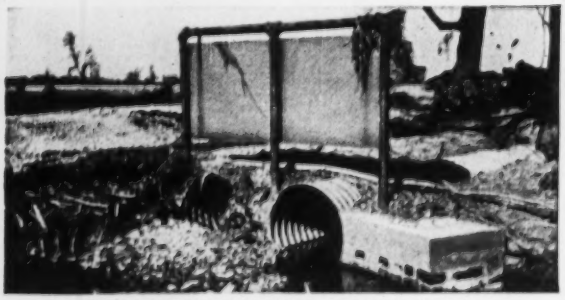
Twin Armco Pipes Are 49 Years Young

Twin Armco Pipes, installed in 1907, as they look today.



Flood in 1913 washed out the road, but left pipes undamaged. Same thing happened two years later.

In 1919 the pipe got a new concrete headwall and the highway was resurfaced with brick.

In 1907, these twin 24-inch-diameter Armco Corrugated Metal Pipes were installed under a well-traveled Ohio road. Today, 49 years and 2 devastating floods later, they are in excellent condition with many years of useful service life ahead of them.

Of course, this early installation of Armco Pipe was light gage and had only a galvanized coating for protection. Countless improvements have been made since then. Today, you can select from a variety of Armco drainage products and coatings designed to withstand almost any degree of loading, corrosion or erosion. Imagine then, how many more years today's improved Armco Structures should last compared with this 1907 corrugated metal pipe.

Durability is a feature of Armco Drainage Structures. Equally important is that Armco Structures have a low initial cost and allow installation economies. No special skill is needed for assembly; jobs go fast.

Armco Pipe is available in diameters ranging from 8 inches to 15 feet, in a variety of gages. Armco Pipe-Arch Structures are supplied in comparative sizes. Write for more data. Armco Drainage & Metal Products, Inc., 3716 Curtis Street, Middletown, Ohio. Subsidiary of Armco Steel Corporation. In Canada: write Guelph, Ontario. Export: The Armco International Corporation.

ARMCO CORRUGATED METAL DRAINAGE STRUCTURES

ARMCO

Reader Comment

Bolting Record Topped

SIR—In the interest of keeping the record straight, the office building now going up at 666 Fifth Ave., New York City, and featured in ENR's cover story of Nov. 22 (p. 28) is not the world's tallest bolted building.

While it may be true that "666" will be 38 stories high, so will the House of Seagram now being erected by the George A. Fuller Co. at 375 Park Ave., New York City. Like "666," Seagram will be 38 stories high, but there is a difference.

Since the primary thesis of your story appears to be height, it will interest you to know that Seagram will rise 519 ft 10 in. above the Park Ave. level. I am informed that the height of "666" will be 469 ft 5 in. That makes Seagram 50 ft 5 in. taller.

Steelwork on "666" is around the fourth or fifth floor. Our construction manager, Tom Hood, informs me that you will be able to measure the entire height of the House of Seagram in a couple of weeks, when steel will be "topped up."

SHANNON MIMS
Director of Publicity
George A. Fuller Co.
New York, N. Y.

Bolts Stressed to 80,000+

SIR—In ENR, Nov. 22, p. 28, you have an article, "Bolting Begins for 38-Story Building," describing the method of tightening the high-tensile bolts in the office building at 666 Fifth Ave., New York City. The second paragraph states that these bolts are being tensioned "to about 55,000 psi." We wish to correct this statement, which is obviously in error.

The bolts used are high-strength bolts, ASTM Designation A325. They are being tightened in accordance with the requirements of the New York City Building Code, which requires the bolts to be tightened at least 15% in excess of the required minimum bolt tension of 90% of the minimum proof load.

Engineering News-Record welcomes expression of opinions from its readers. Comment should be as brief as possible and pertinent to subjects of current construction importance. Letters should be addressed Editor, Engineering News-Record, 330 W. 42nd St., New York 36, N. Y.

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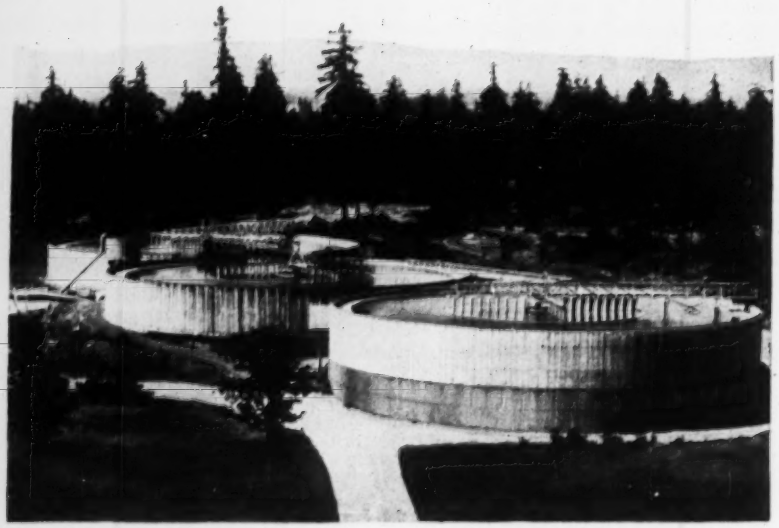
Solution to a "Current" Problem at

CROWN ZELLERBACH



In what other way you may ask — besides floating a log boom downstream — would a river current affect production in a paper mill? If you were operating a mill on the Willamette River where it joins the Columbia, you'd find that obtaining clear process water for production of bleach pulp could be a major headache. Contributing facts to this problem are the tidal action of the Pacific Ocean and the presence of turbidity and color — both characteristics of these two rivers. Specifically, this problem occurred at the St. Helen's Division of Crown Zellerbach, St. Helens, Oregon. The solution — three 120 ft. dia. Dorrco Clariflocculator units which now produce 30 million gallons of water per day containing less than 5 parts per million color and 5 ppm turbidity.

Obtaining process water for the pulp and paper industry may be only of academic interest to you. But, if you have a problem involving the separation of finely divided solids in suspension, the use of fluidizing techniques or ion-exchange, the chances are that Dorr-Oliver and its Associated Companies throughout the world can be of service to you.

***Clariflocculator is a registered trademark of Dorr-Oliver Incorporated**

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. . . Reader Comment

There is no recommended maximum tension. This specified tension is over 80,000 psi for most sizes of bolts and not 55,000 psi as stated in the article.

The recommended bolt tension is 49,000 lb for 1-in. bolts and 58,000 lb for 1¼-in. You may have confused unit stress with total tension.

The point to be made is the difference between the unit stress and the total tension in the bolt, which is probably what caused the misstatement.

E. F. Ball
Chief Engineer
Bethlehem Steel Co.
Bethlehem, Pa.

[Editor's Note—The mistake was in using gross bolt area instead of mean root thread area in figuring unit stress.]

Frames Failed In Torsion

Sir—In regard to the failure of the AMC warehouse frames, as reported in Engineering News-Record Jan. 12 and in "Civil Engineering" in February, it should have been obvious that the long-span girders had failed in torsion. The report in the latter journal mentioned some "effects of torsion" but believed torsion was a secondary effect.

Incidentally, the long girders are in violation of the ACI and the Joint Committee codes, which state that the clear distance between lateral supports should not exceed 32 times the least width of the compression flange. Since the lateral supports are the columns, which are 66 ft apart, the minimum width of girders should have been 25 in. instead of 20 in.

My search for the cause of the failure led to the all too frequently neglected third dimension. This huge structure is divided, by several transverse and one longitudinal expansion joint, into twenty 200 x 200-ft units. Only in the transverse direction of the building, where the column spacing is 66 ft, was any attempt made to satisfy the usual requirements of rigid-frame construction. But in the direction at right angles, where the column spacing is 33 ft, nothing was done to stiffen the structure.

In that direction, the only members that tie the building together are very slender purlins 8 ft c-c. If instead of the 4-in. gypsum slab or the concrete channel slabs, the design had provided a cost-in-place, monolithic concrete slab, the structure might not have failed. For the large dimensions of the building, the detached slabs were insufficient. As it was, the purlins could expand or contract in length with very little impedance and laterally push or pull the long-span girders.

Now with 8 purlins per 66-ft span

Not Only Jet Fuel Resistant . . . But a

JET BLAST RESISTANT

JOINT SEALING COMPOUND

ALLIED JET SEAL

Cold Applied Joint Sealing Compound

U. S. MILITARY REQUESTS SEALER IMPROVEMENT FOR JET USE

Jet aircraft usage has required joint sealing compound manufacturers to develop a better sealing compound for concrete runways. A compound that would be practical for use by jet aircraft. Engineers stipulated that the compound should be improved in adhesion, cohesion, resilience and ductility at low temperatures. Primarily, IT MUST WITHSTAND THE TERRIFIC HEAT AND **BLAST FORCES** OF JETS, as well as be resistant to jet fuel. This compound must be simple to apply, quick to cure and be within the economic limits of federal military budgets. ALLIED USED THESE RECOMMENDATIONS AS **MINIMUM REQUIREMENTS** IN THE DEVELOPMENT OF ALLIED JET SEAL.

ALLIED MATERIALS CORP.

PRODUCERS, REFINERS AND COMPOUNDERS FOR OVER 25 YEARS

General Offices: Braniff Bldg., Oklahoma City Plants: Stroud, Okla., Paramount, Calif., Detroit, Mich., New Market, N.J., and Brantford, Ont., Canada.

PERFECT FOR JET RUNWAYS

● QUICK CURING

Runways where Allied JET SEAL has been used can be opened to foot traffic in thirty minutes and heavy aircraft traffic, such as a 456,000 lb. gross load jet bomber in eight hours.

● BLAST RESISTANT

Allied JET SEAL will not be blown from joints by the blast of the jet engines now being used, even under prolonged exposure. There are no cold flow tendencies even at temperatures in excess of 300°F., thereby assuring that Allied JET SEAL will remain where placed. These characteristics also make it possible to seal vertical and overhead joints.

● JET FUEL RESISTANT

In addition to its other characteristics, Allied JET SEAL is unaffected by jet fuel, oil and solvents.

● ECONOMICAL

Allied JET SEAL is well within the monies appropriated to the Armed Forces for airfield use. Admittedly the initial cost for Allied JET SEAL will be slightly higher; however, maintenance cost will be greatly reduced. The expectant life of the sealer material is increased as much as 250% over presently used J.F.R. materials.

● SIMPLE APPLICATION

Allied JET SEAL is a two-component cold applied compound. When the two components are mixed, they set up immediately; therefore, they must be kept separated until just before entering the joint. Allied has developed special equipment that proportions, pumps, mixes and places the compound automatically, making the operation even simpler than previous methods. This equipment is available to contractors, qualified agencies or individuals by purchase or lease.

Allied Materials Corporation also manufactures regular joint sealing compounds meeting Federal Specifications SS-S-164 and SS-S-159. Write for additional information.

5 reasons for specifying AND USING SERVICISED® KORK-PAK premolded joint filler

1. Non-extruding
2. Recovers more than 80% of original thickness after compression
3. Low moisture absorption
4. Readily handled without breakage
5. Least expensive non-extruding type

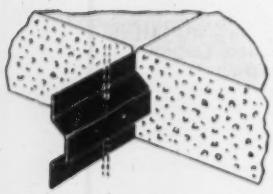
KORK-PAK—an exclusive Servicised development—is composed of cork granules bonded together with asphalt between two sheets of heavy asphalt saturated paper. Available in ¼", ⅜", ½", ¾" and 1" thicknesses, widths to 36", and standard lengths of 5 or 10 feet. Longer lengths supplied on special order.

SERVICISED ASPHALT JOINT FILLER

★ Forms an easily compressible cushion
★ Highly waterproof
★ Low in cost

A composition of asphalt, vegetable fibre and a small percentage of finely divided mineral filler formed between two sheets of asphalt saturated paper which increases strength and rigidity and improves handling. Available in ¼", ⅜", ½", ¾" and 1" thicknesses, widths to 36" and standard lengths of 5 or 10 ft.

TONGUE AND GROOVE JOINT



★ Provides quick, low-cost tongue and groove joint for keyed slab construction
★ Rigid . . . easy to handle and install

Servicised Tongue and Groove Joint consists of a high grade asphalt mastic core formed between sheets of heavy asphalt saturated paper. It is waterproof, non-extruding and extremely durable. Supplied with punching for dowel bars and stake pins. Available without punching. Standard length 10' 2"; widths from 4½" to 10½" in 1" increments; thickness ⅛". Standard widths listed are for slabs from 5" to 11" thick.

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. . . Reader Comment

pushing or pulling against the long girder, some restraint had to develop, and that was the shear in the columns. I have computed for the interior column of row 15, bent No. 1, that this shear is 9 kips, with a lever arm of 8 ft to the axis of the frame. Thus, the long girder is subjected to a torque of 72 ft-kips, which is carried throughout the girder from one column to the next.

When this torque is substituted in the standard torsional shear formulas, a maximum unit shearing stress of 250 psi is indicated. Adding this to the maximum unit shearing stress of 42 psi for dead load, we get a very sizable stress of 292 psi. The allowable unit shear for beams without stirrups is 90 psi.

It may be asked: Why did the girders fail at sections approximately 20 ft from the columns? There is no ready answer to that question. It can, however, be shown that resistance to torsion rises very rapidly with increase of height of section. Resistance to bending in the vertical plane increases even more rapidly with increase of height.

There is one more matter that may have a bearing on this subject. As the purlins are pushing or pulling against the side of the long girder, there may be a secondary bending in the lateral direction, which might create high bending stresses where the girder becomes stiffer.

Ernest H. Harder
Consulting Engineer
South Orange, N. J.

CALENDAR

Highway Research Board, annual meeting, Sheraton-Park Hotel, Washington, D. C., Jan. 7-11.

Seventh Annual Sanitary Engineering Conference, University of Kansas, Lawrence, Kan., Jan. 8.

National Association of Home Builders, annual convention and exposition, Hotel Sherman, Hotel Conrad Hilton and Coliseum, Chicago, Ill., Jan. 20-24.

Associated Equipment Distributors, 38th annual meeting, Conrad Hilton Hotel, Chicago, Jan. 27-30.

American Road Builders Association, annual meeting and road show, Chicago Amphitheater, Jan. 28-Feb. 2.

National Association of Home Builders, annual convention and exposition, Hotel Sherman, Hotel Conrad Hilton and Coliseum, Chicago, Ill., Jan. 20-24.

Reinforced Plastics Div., Society of the Plastics Industry, Inc., 12th Annual Technical and Management Conference, Edgewater Beach Hotel, Chicago, Ill., Feb. 5-7.

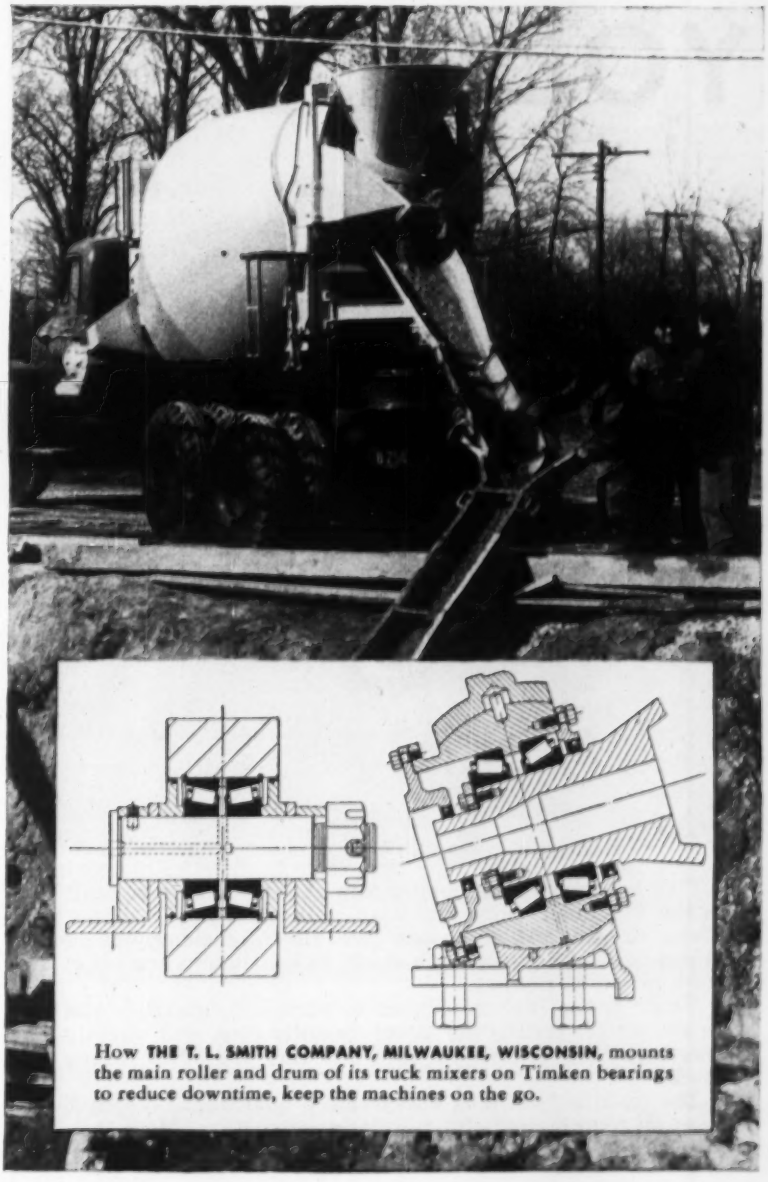
Why The T. L. Smith Co. specifies TIMKEN® bearings on its heavy-duty mixers

LIKE any heavy-duty mixer, this Smith truck mixer must mix and haul tons of concrete daily on a tight work schedule. To keep it on the go, the bearings in the trunnion and drum rollers have to be rugged to take the punishing radial and thrust loads. Looking for a way to improve performance at these vital points, T. L. Smith engineers specified Timken® tapered roller bearings.

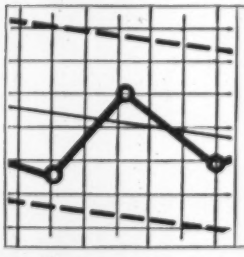
Constant, heavy shock loads don't bother Timken bearings because the bearing rollers and races are case-carburized to get hard, wear-resistant surfaces over tough, shock-resistant cores. Tapered construction enables Timken bearings to take *both* radial and thrust loads in any combination. And full line contact between rollers and races gives Timken bearings extra load-carrying capacity. The Mixer operates steadily, keeps on the go with minimum maintenance.

You get the same advantages, and more, when you specify Timken bearings for the machines you buy or build. We overlook nothing to give you the best tapered roller bearing money can buy. We even make our own fine alloy steel—America's only bearing manufacturer that does. Be *sure* . . . be safe . . . look for the trade-mark "Timken" on every bearing. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.



How **THE T. L. SMITH COMPANY, MILWAUKEE, WISCONSIN,** mounts the main roller and drum of its truck mixers on Timken bearings to reduce downtime, keep the machines on the go.



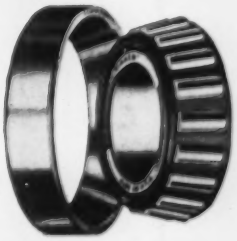
STATISTICAL QUALITY CONTROL

To insure uniform high quality and closer tolerances, the Timken Company uses statistical quality control. With it, tolerance deviations are plotted graphically. It's one of industry's newest, most scientific methods of improving product uniformity.

TIMKEN

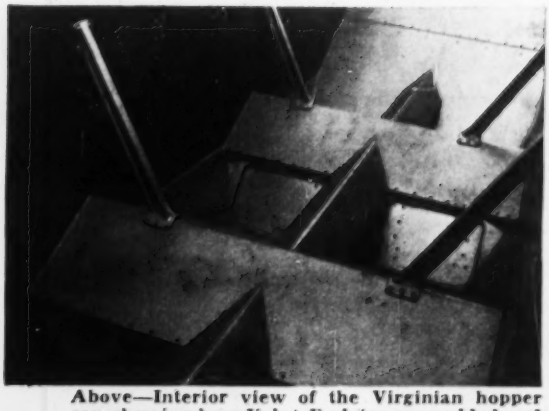
TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

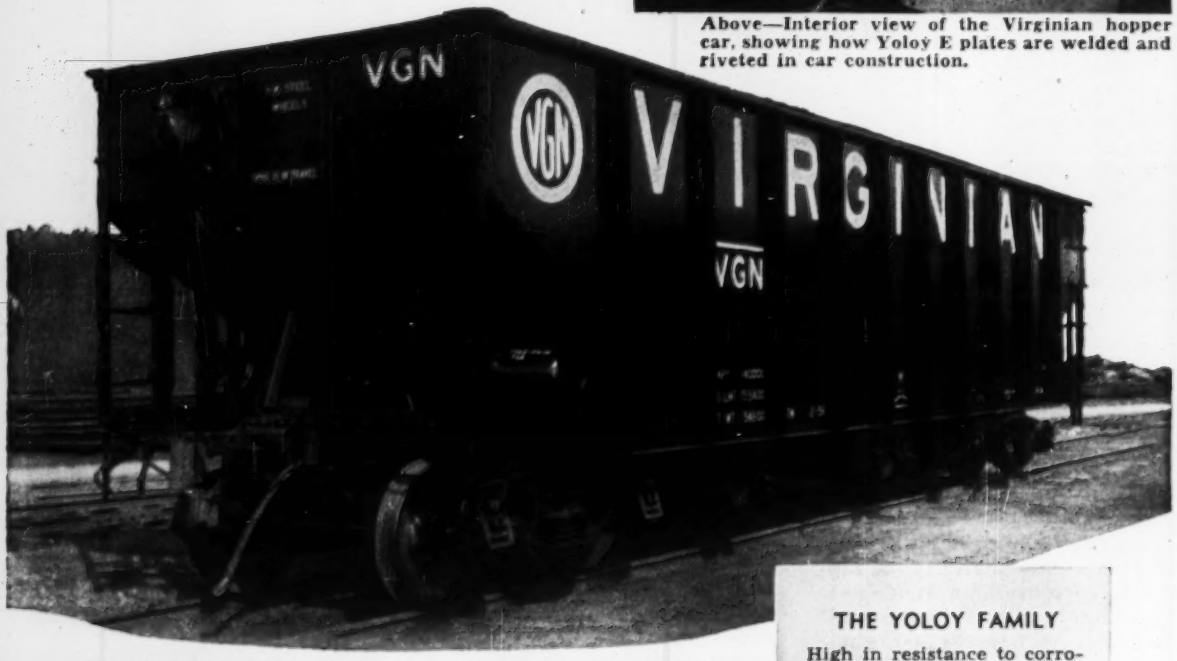


NOT JUST A BALL ○ NOT JUST A ROLLER ⊂⊃ THE TIMKEN TAPERED ROLLER ⊂⊃ BEARING TAKES RADIAL ‖ AND THRUST ⊂⊃ LOADS OR ANY COMBINATION

On the Virginian coal rides on YOLOY E



Above—Interior view of the Virginian hopper car, showing how Yoloy E plates are welded and riveted in car construction.



Five hundred 70-ton hopper cars like this one, to be built in the Virginian shops this year, will use Yoloy E plates. These rugged cars will soon join fleets of thousands of others built of high strength steels, to haul the nation's coal from mines to market.

Yoloy E has high resistance to corrosion, abrasion and shock which results in lower maintenance and greatly lengthened life for hopper cars, box cars and other rolling stock.

The excellent forming and welding qualities of Yoloy E meet all requirements for railroad construction. More than 20 years of proven service on American railroads demonstrate every day the extra values obtained from the Yoloy Family of Steels.

THE YOLOY FAMILY

High in resistance to corrosion, shock and vibration, easy to fabricate, easy to weld.

YOLOY S
(Nickel-Copper)
High Strength Steel

YOLOY E
(Nickel-Chrome-Copper)
High Strength Low Alloy Steel

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QUALITY YOUNGSTOWN SERVICE

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Manufacturers of Carbon, Alloy and Yoloy Steel

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any thread you need!

MUELLER CORPORATION STOPS

A combination of practically any type inlet or outlet thread on Mueller Corporation Stops permits you to connect to any type main and run the service line best suited to your needs. You may have a requirement for connecting to thin walled pipe. For this purpose, use the Mueller compression joint inlet with either copper or increasing I.P. thread outlet. Mueller inlet threads form a strong mechanical connection to the main. The compression joint, composed of a rubber sealing ring encased in a copper retaining ring, is tightened down against the main to provide a pressure-tight seal.
Check your particular requirements, then contact your Mueller Representative or write direct for complete information on the corporation stop that will fit your needs.

MUELLER CO.

Dependable Since 1857

MAIN OFFICE & FACTORY DECATUR, ILLINOIS

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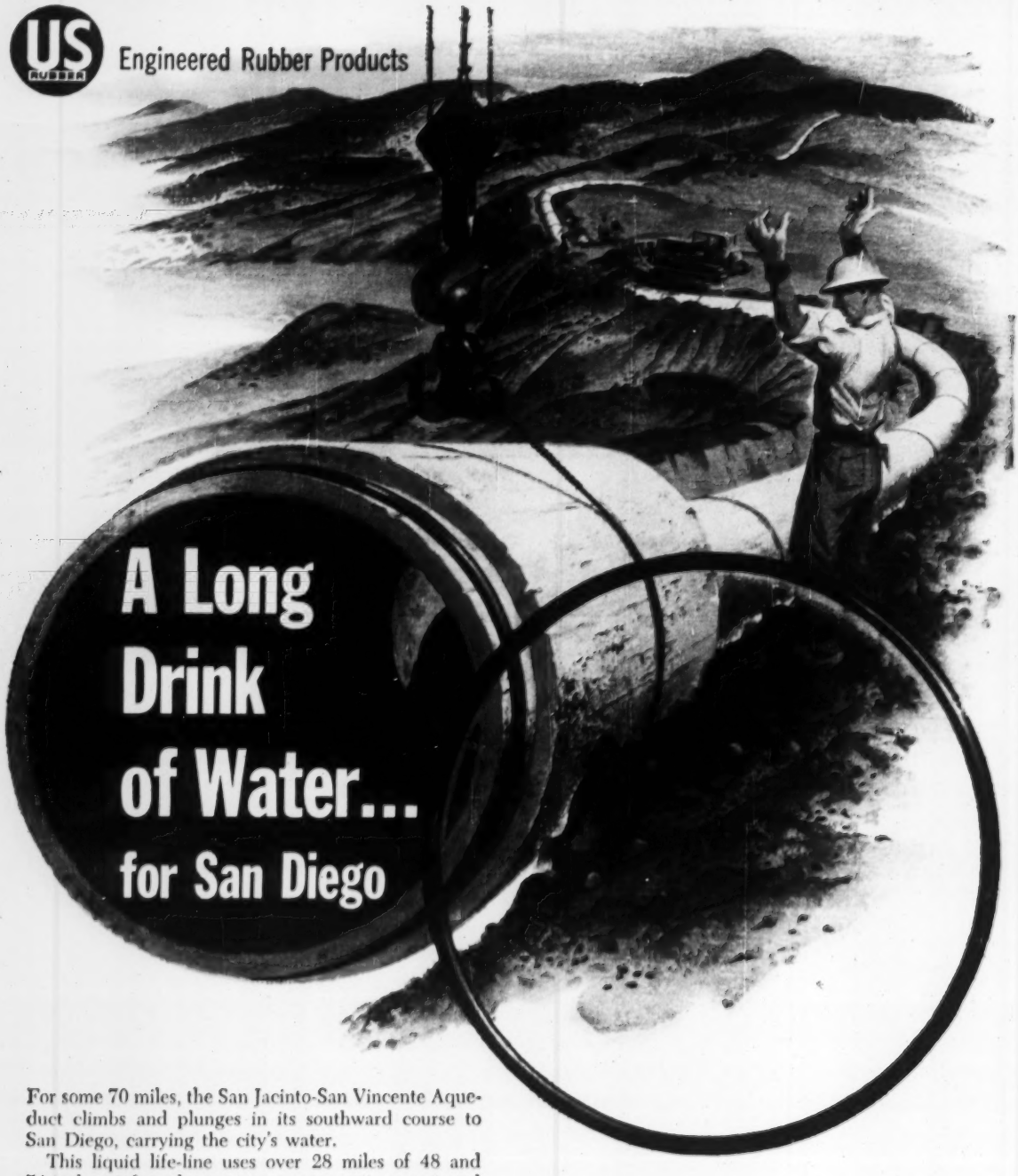

A Long Drink of Water... for San Diego

For some 70 miles, the San Jacinto-San Vincente Aqueduct climbs and plunges in its southward course to San Diego, carrying the city's water.

This liquid life-line uses over 28 miles of 48 and 54-inch reinforced concrete pressure pipe equipped with steel joint rings.

These steel joint rings—about 8,500 in all—are sealed with U. S. Rubber round gaskets, made by the unique process of *continuous molding*. This process is exclusive with U. S. Rubber. Continuous molding produces the only seals that provide minimum compression set, precise tolerances (down to .008 if needed), and long life —all at reasonable cost.

This continuous molded gasket is only one of thousands of examples of how "U. S." experts engineer rubber and plastic parts in mass-production—yet at exacting tolerances. For your next construction job, contact any of the 28 "U. S." District Offices or write us at Rockefeller Center, New York 20, N. Y. In Canada, contact Dominion Rubber Co., Ltd.

US RUBBER **Mechanical Goods Division**

United States Rubber

ENGINEERING NEWS-RECORD

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THE CONSTRUCTION WEEK

SUEZ CLEARANCE PROGRESSING—As predicted in ENR, Nov. 29, p. 21, a channel through the Suez Canal wreckage will be open in weeks instead of the five months' period so widely mentioned. Actually the thirteen-ship convoy trapped in the north end of the canal could move out into the Mediterranean now. This is reported by a BUSINESS WEEK correspondent who traveled along the canal last week. He also reported that the British-French salvage fleet now on the scene number 26 pieces of equipment, including 16 equipped with crane booms. Also that 20 other vessels are on the way, including eight chartered from private companies. Any Egyptian opposition to the use of this Anglo-French equipment by the United Nations salvage force is likely to be overcome.

NIBBLE FOR BUSHY PARK WATER—Gulf Oil Corp., Pittsburgh, has acquired options on more than 3,000 acres of land near Charleston, S. C., as a possible site for an oil refinery. The land is located on the Wando River, about 10 miles from the Bushy Park River diversion scheme that can provide upwards of 2 bgd of fresh water (ENR July 19, p. 47). Gulf would require about 30 mgd of this, probably transmitted in an unlined tunnel through the area's Cooper marl.

NEW AUTOS AND HIGHWAY SAFETY—At the National Automobile Show in New York, which opened last week, it was noted that most of the new models are getting still lower and lower. With existing highways designed for sight distances computed with height of eye at 4½ ft, some observers were concerned for highway safety as a number of the latest models measured only 58 in. in overall height.

LOW WATER THREAT DELAYED—Sporadic rains on the upper Mississippi River valleys and tardiness in the onset of winter freezes have combined to fend off, at least for the time being, a critical low water situation in the St. Louis area. During November water level held between minus 1.7 and 3.0 ft; as of this Monday river stage was minus 2.6 ft. Serious trouble begins at minus 5.5 ft (ENR Nov. 1, p. 21).

KILOWATTS KEEP COMING—Before the end of 1960, the nation's electric utilities plan to add on 50 million kw, including a million of atomic power. Steam plants will account for 87% of the expansion; of 523 new generating units, 386 will be thermal and 137 hydro. These figures were presented at the 20th semi-annual electric power survey of the Edison Electric Institute. The institute also found that industry capability is expected to reach 122.7 million kw by the end of 1956, a 5.5% increase over 1955; and by the end of 1959, 160 million kw will mean a jump of 37% over 1955.

Always replace a HYATT with a HYATT!

You're *both* smarter and safer when you replace with exactly the same bearing the manufacturer specified for the application.

YOU'RE SMARTER because it means savings in time and trouble. Hyatt Hy-Rolls are precision-built and require no fitting adjustments—they're *completely interchangeable!*

YOU'RE SAFER because you're sure of a dependable job—the same trouble-free performance originally built into the equipment!

Insist on HYATT Hy-Rolls—you're insisting on the lowest bearing cost per hour of service! Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

Watch "WIDE WIDE WORLD" Sundays on NBC-TV

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Always look for the familiar blue and yellow box —when it comes to quality, there's no substitute for

HYATT HY-ROLL BEARINGS FOR REPLACEMENT

WASHINGTON OBSERVER

Eisenhower has again gotten behind his White House public works operation by publicly stressing once again the need for a strong federal co-ordination of all public works planning. Eisenhower made his views known in a letter to Maj. Gen. John S. Bragdon, who has been a White House special assistant on public works planning for more than a year.

Bragdon went to Augusta to report to the President on the work of his office in developing a program to eliminate confusion and over-lapping of public works planning by state and local agencies and federal departments. So far, though, Bragdon's work has been largely on the fundamentals and character of public works planning. So far, he's left relatively undisturbed the day-by-day way in which federal departments carry out their planning. His work with state and local officials has been mainly to foster exchange of information with his office.

•

Cement shortages ahead may be more severe than earlier estimate indicate, according to a 72-page report to the House Small Business Committee by its professional staff.

They see demand out-running planned expansion of capacity reported by cement producers as of the beginning of this year. The staff used the original estimates of the Bureau of Public Roads to figure consumption to be generated by the new federal highway building program—figures that are now undergoing revision by BPR itself.

The report finds barely enough cement for 1957—based on a 90% utilization of capacity—and a considerable shortage by 1960 when the roadbuilding program begins to approach its peak.

•

Pre-fab housing makers hope to get big chunk of private housing for military personnel to be built on military installations under the Capehart law. They are shooting for half of the estimated $2.3-billion worth of business, all of which is guaranteed against loss by both Defense Department and FHA. So far, Congress has okayed guarantees for about 150,000 units. About 50,000 may be started in the next 12 months.

Pre-fab companies are meeting with architect-engineer contractors for the military services to show them how to design for pre-fab construction.

•

Lease-purchase program has gotten another black mark—no bids received on the second offering of a $68,750 post-office building for Point Pleasant, New Jersey. The proposal called for combination bids only—those that included both financing and construction. **A similar building at Oxford, Pa., some time back brought three bids**—but none was found acceptable by the department. **This adds to private doubts of some Administration officials** about trying to continue the program at all.

•

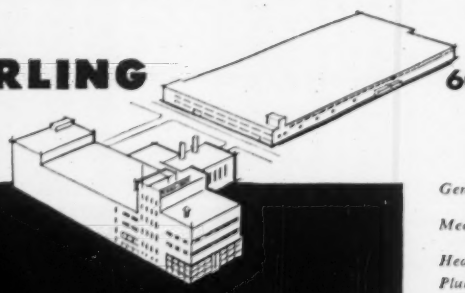
Construction of new plant and equipment will stay high in 1957. The Securities and Exchange Commission and the Commerce Dept., in their regular report on capital expansion plans, see the first quarter of 1957 a good one—with expenditures going at a rate of $8.7-billion. This figure is a healthy one, but the increase is at a slower rate than previously reported.

Longer-range forecasts will be coming in soon. The facts to watch are the range of differences between the government first-quarter estimate, and the private predictions for one quarter, or for the entire year. Compare the other forecasts with the SEC-Commerce annual rate for '57 of $38-million. Some specifics:

Machinery capacity including construction equipment is estimated at $286-million, up from the $227-million spent in the first quarter of '56.

Stone, clay and glass products are up from $132-million in the first quarter of '56, to $149-million in the first quarter of '57.

At the new **CARLING** 600,000 barrel eastern plant



General Contractor:
GILBANE BUILDING CO., PROVIDENCE, R. I.
Mechanical Contractor:
HARTWELL COMPANY, INC., EAST PROVIDENCE, R. I.
Heating Contractor: J. C. HIGGINS CO., BOSTON, MASS.
Plumbing Contractor:
JAS. S. CASSEDY, INC., CAMBRIDGE, MASS.

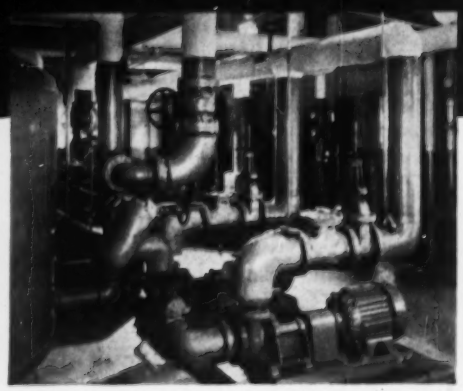
JENKINS VALVES

control piping planned for new standards of brewing efficiency

At Natick, Massachusetts the new plant of the Carling Brewing Company gleams like a giant laboratory, totally different in every aspect from the conventional brewery architecture of the past.

In layout for operating efficiency, as well as appearance, the Carling plant sets new standards. All equipment was selected to meet the critical requirements of this advanced design. Over 2000 Jenkins Valves were installed on the basis of proved dependability, safety, and long-range maintenance economy.

This *extra value* built into Jenkins Valves is recognized by plant operating managements in every type of industry. Let the Jenkins Diamond be your guide to lasting valve economy. Jenkins Bros., 100 Park Ave., New York 17.



JENKINS VALVES selected to control steam, water, waste, and processing pipelines include many sizes and patterns of bronze, iron, cast steel, and stainless steel valves. Illustration shows large iron gate and check valves in the filtered water pump system.

JENKINS
LOOK FOR THE JENKINS DIAMOND
VALVES
SINCE 1864 TRADE JENKINS MARK

SOLD THROUGH PLUMBING-HEATING AND INDUSTRIAL DISTRIBUTORS

Mergers—What Do They Mean to You?

In the year just ending, the construction industry—for better or for worse—has undergone basic changes because of an accelerating merger trend. The trend seems likely to continue in 1957, bringing with it still more changes.

Some of the merger effects will not be clear for several years; others are readily apparent. Who's merging—and why? Here are some of the principal points uncovered in a special ENR study.

Equipment and materials suppliers to the construction industry have consummated so many mergers in the past few years, that some familiar names of construction products no longer can be found in the market place.

As "old faces" vanish, new ones appear. Companies well established in such fields as oil, textiles and railroads, now appear in construction. Equipment manufacturers are merging with other equipment makers, and sometimes with distributors. Building products suppliers are merging to develop, increase or protect their raw material sources. Materials producers are consolidating within their own ranks.

Distribution and Service

Contractors already have felt the effects when a merger of two manufacturing firms in the equipment field disrupts long-established relationships between contractors and local equipment distributors.

For example, XYZ "Corporation," with whom a distributor has had an exclusive franchise, merges with another construction equipment manufacturer whose line is competitive with machines carried by the distributor.

Because he cannot carry lines of competitive equipment, the distributor decides to drop the former line he handled.

This presents the contractor with a problem. Either he can switch to the new equipment sold by the distributor, or he can remain loyal to the equipment he has been using—but find a different XYZ distributor. This means establishing new purchasing and financing relationships.

Against this disadvantage, however, is at least one counter-balancing factor. New, improved construction equipment has been developed as a result of certain mergers.

Another point, mergers breed mergers.

As big companies feed on acquisitions, small companies feel they must expand by mergers themselves in order to remain competitive. Or, where they are carrying a single line of products and find it more and more difficult to meet the competition, these small firms sell out.

Some Are Good

Here are some of the advantages that may develop if the merger trend continues:

- Technical research on the part of the larger corporations, with extensive research laboratory facilities and engineering talent, probably will result in more efficient equipment. Contractors probably will get more machine per dollar.
- Standardization of equipment by larger companies should result in greater interchangeability of parts.
- Greater parts availability may result as large manufacturers establish wider distributorships and supply centrally-located parts depots. There might be a trend toward more servicing facilities by manufacturers.
- Training facilities for contractors' employees probably will be increased by the large equipment manufacturers.
- In the building products field, new materials and greater use of modular units are foreseen.
- Some products, now sold locally, will gain national distribution; sales forces will be larger as big manufacturers take over more of the building products field.
- Greater stability, longer life and steady growth for companies themselves seems likely. There will be less of the boom and bang type of growth among the small firms.
- Prices are apt to be more stable.

Some Are Bad

But, there are disadvantages, too:

- Over-standardization of equipment and a tendency toward inflexibility would constitute one threat.
- Small manufacturers can concentrate on special equipment designed to meet a limited market or to meet conditions in a particular section of the country. They often are in closer touch with contractors' special requirements and can cater to local and even individual needs.
- The big manufacturer, to attain economies, tries to mass produce his products.
- Another threat is that there will be fewer manufacturers and undue concentration of power in relatively few companies.
- Some observers fear the eventual formation of three or four huge corporations, built by mergers, manufacturing the bulk of construction equipment. (The current trend in the construction industry is sometimes compared with that of the automotive industry. Once, there were more than 2,500 different automobiles sold in the United States; today there are about 25. Five large companies presently control automotive production in this country.)
- If the present trend continues, the independent construction machinery manufacturer will have trouble getting adequate financing to compete with the giants.
- Furthermore, when a large company can offer a distributor a complete line of products, some ask where the independent company with a single product will get its distribution.

Why Do They Merge?

How did this merger problem arise? It's not a new worry. The United States is in the midst of its third major wave of mergers and acquisitions.

Such present day giants as U. S. Steel and Standard Oil are reminders of the first significant merger movement which flourished at the turn of the century.

Combinations of businesses in the same line of activity were typical in this period. Large corporations often were assembled solely to dominate and monopolize markets.

From 1898 to 1903, more than 70 large industries underwent consolidation; 26 giants controlled at last 80% of production in their respective fields.

The second wave of mergers was spawned by World War I and zoomed through the 1920s.

As in the first wave, bankers took the initiative in promoting these mergers. Often, large holding companies were formed simply to provide more and more new securities.

Mergers became so frequent, and were so often without sound economic reason, that even Wall Street bankers ridiculed the trend.

The first two waves of mergers re-

. . . Mergers—what do they mean to you?

ceded when profits no longer could support unstable corporate structures built during earlier years of prosperity and activity.

The present merger trend began developing slowly after World War II; it picked up momentum after 1950.

As in the earlier movement, this period is characterized by relatively high stock prices, widespread public interest in securities, high corporate profits, and general business prosperity.

Unlike the first two periods, today's mergers for the most part are initiated by operating executives of industry—rather than financiers. Government regulation is more active.

According to Federal Trade Commission tabulations, 3,781 corporate mergers took place between 1951 and 1955. More than 400 mergers were spotted during the first six months of this year alone.

For the first time the construction industry has become a full participant in the march toward consolidation.

The Firms Involved

Who is involved in these mergers? ENGINEERING NEWS-RECORD made a study of 90 mergers and acquisitions that occurred in the construction industry and in companies that service the industry. These mergers covered the period only between July 1955 and August 1956.

Results were as follows:

• Of the 90 acquired companies, 30 were equipment manufacturers; 52 were materials and building fabricators; eight were engineers and contractors.

• Numerous mergers among equipment manufacturers have been triggered by the high cost of research and development.

• The high unit cost of heavy construction equipment is the despair of the small manufacturer. He cannot afford to gamble on products. One mistake in development can be costly enough to put him out of business. Often, he cannot afford to match expensive research programs carried on by his large competitors.

Even if the small manufacturer has a sure-fire item to add to his line, he still faces the problem of raising necessary capital for production and distribution. The size of the company limits the amount of outside financing he can obtain.

For example, Raymond Q. Armington, former Euclid president, appearing before a Senate anti-trust and monopoly subcommittee studying the corporate structure of General Motors (with whom Euclid merged), told the investigators:

"The best we could have done (without merging) was to survive in a constantly decreasing way with the few products we had pioneered and upon which we had established our reputation.

"In order to compete effectively with Allis-Chalmers, Caterpillar, and International-Harvester, Euclid would have had to go into production of rubber-tired tractors and scrappers.

"This," Armington said, "would have required an outlay of about $30 million, and it was just not in the cards to think that we could get that kind of money on our own."

But there are other merger incentives. Pooling of resources with another small company is one way equipment manufacturers attempt to solve problems of development and growth.

"Rounding out the line" accounts for many construction equipment mergers. The merger of Buffalo-Springfield Roller Co. and Kochring Co. in November is an example of this type, which gave Kochring asphalt paving equipment to supplement its concrete line.

The opportunity to acquire facilities near new markets sometimes leads to mergers. Standard Steel Corp., of Los Angeles, acquired Leader Iron Works, of Illinois, last month; this move gives Standard Steel a modern Midwest factory with an established business.

Standard is a prime manufacturer of asphalt paving plants; this type of road equipment will be one of the major products turned out at the new Midwest facility.

An Attractive Business

Continued strength of the construction industry over the past few years also has attracted companies outside the field, who view it as a money-maker. The vast potential of the construction market enhances prospects of profitable equipment manufacturing for corporations outside the industry. Thus they diversify their activities, or lessen their dependence on seasonal or declining markets.

Experience in related fields explains some of these moves. That was a factor for companies such as General Motors Corp. and Westinghouse (whose purchases included the earthmoving business of R. G. LeTourneau, Inc. and J. D. Adams Co., a grader manufacturer).

A farm machinery producer, J. I. Case Co., of Racine, Wis., is one of the newest entrants into the field. A few weeks ago, Case acquired American Tractor Corp., of Indiana, one of six full-line producers of crawler tractors.

Case is looking for diversification to bolster its sales, which have been declining. The merger will enable Case to enter the roadbuilding field in a big way.

Growth through a diversified acquisition is a prime method employed by companies in the building products field; certain advantages are readily apparent.

Companies faced with a declining market, an obsolete product, or a product for which there is limited demand can make a fresh start with an additional line.

For those companies whose products are subject to seasonal demand, diversification can be a means of stabilizing income.

Companies producing for a highly competitive market often see in diversified mergers, opportunities to add products with better profit margins.

Large corporations sometimes prefer to acquire companies in unrelated fields. They have less fear of government anti-trust action than when they acquire companies in their own fields.

Other arguments are advanced in favor of diversification. A greater variety of items increases service to customers; it enables distributors to buy more items in a given line from the same supplier. And, diversification of products in a large company can reduce sales expense for each item sold.

Many of the mergers appear logical at first glance—unlike the case of a lingerie firm that acquired a lime and cement manufacturer.

The Logic of It

Heating and air-conditioning firms, for example, have been particularly subject to mergers within the past few years. Each has a seasonal market. Since each industry complemented the other, it was only natural that they should think of merging.

Worthington Corp. purchased L. J. Mueller Furnace Co. in 1954. Worthington produces pumps, power-plant equipment, compressors, and is active in the refrigeration and air-conditioning field. Mueller was a leading heating furnace manufacturer. Although now merged, each company maintains its own distributor and dealer organizations.

Other companies have followed Worthington's example—among them U.S. Air Conditioning Corp. with Floral City Heater Co., of Michigan; Borg-Warner Corp. (heating) with York Corp. (air conditioning), and National U.S. Radiator Corp. with Union Asbestos & Rubber Co. (Air Conditioning Division).

Materials producers also have joined the merger movement.

Mergers among Pacific Northwest

lumber and plywood manufacturers involve giants. And, there has been a wave of timberland acquisition.

Such combinations have been sparked by a desire to consolidate large reserves for raw materials, to insure adequate supplies and to acquire production facilities valued for national marketing.

Georgia-Pacific Corp., within six months, has entered deals to buy timberlands and lumber mills of Hammond Lumber Co. of Northern California for $75 million, and the Coos Bay Lumber Co., of Oregon, for about $80 million. Earlier, Georgia-Pacific had acquired Feather River, Calif., pine mills and forest lands.

U.S. Plywood Corp. activities have followed a similar pattern recently.

Other recent acquisitions include Kaiser Gypsum Co.'s purchase of Fir Tex Insulating Boards, Inc. and Simpson Timber Co.'s purchase of M&M Woodworking Co.

Constant growth of large corporations through mergers also is causing many of the smaller companies to merge for their own market protection.

This factor has contributed to the growth of H. K. Porter Co., for example.

In 1939, Porter made switch engines, then moved into electric switches and did well enough to buy into a few small capital goods companies.

At the end of World War II, Porter's president, Thomas Evans, found that products made by his company were competing with those of much larger firms. Evans decided the answer was a sudden growth pattern for Porter by merger; the technique was to acquire other small companies.

Today, in addition to steel, H. K. Porter's products are divided into five major classifications; industrial rubber products, refractory materials, electrical equipment, rolling and melting copper and alloy materials and miscellaneous fabricated products.

Contractors and engineers seem less likely to merge than others.

Mobility of contractors, plus extensive use of the joint-venture technique has resulted in fewer mergers for this group than for others in construction.

Merritt-Chapman & Scott is one notable exception. Macco Corp., of Los Angeles, is another.

Construction activities in 1952 produced 95.5% of Merritt-Chapman & Scott's gross revenues. By 1955, construction accounted for only 32% of the firm's total revenues, even though the dollar value of construction performed was much greater than in 1952.

On the West Coast, Macco Corp., of Los Angeles, has been active in the merger trend. Macco's activities include general construction, pipeline and refinery construction work.

Last year, the company acquired three new subsidiaries: Diversified Build-

Some Recent Mergers

This random recent listing of mergers and acquisitions in all areas of the construction market points up the increasing trend.

EQUIPMENT MANUFACTURER

Acquiring	*Acquired*	*Date*
Standard Steel Corp. Road construction machinery and asphalt paving plants	**Leader Iron Works** Asphalt paving plants	Nov. '56
Koehring Co. Varied construction machinery	**Buffalo Springfield Roller Co.** Road rollers and other machinery	Dec. '56
Chain Belt Co. Concrete construction equipment	**General Road Machinery Inc.** Steel forms for concrete construction machinery and other road building equipment	Oct. '56
J. I. Case Co. Farm machinery	**American Tractor Corp.** Crawler tractors and earth moving equipment	Nov. '56
Yuba Manufacturing Co. Dredges	**C & D Manufacturing Co.** Holds patent on C & D MOV-ALL, heavy duty earthmover	Nov. '55
American Hoist & Derrick Co. Cranes, hoists, derricks	**American Steel Dredge Co.** Dredges, hulls, barges	Aug. '55

BUILDING MATERIALS

Ruberoid Co. Roofing products, asphalt felt, asbestos sheets, boards	**Lucky Star Roofing Products Corp.** Asphalt roofing products	Dec. '55
Allied Chemical and Dye Corp. *(Barrett Div.)* Roofing, road materials and coal tar chemicals	**Newark Plaster Co.** Gypsum wallboard, lath, sheathing and plaster	Jan. '56
Flintkote Co. Asphalt and asbestos products, other building material	1. **Insulrock Corp.** Acoustical insulating fireproof building material	Feb. '56
	2. **Van-Packer Corp.** Prefabricated chimneys	Sept. '56
	3. **U. S. Lime Products Corp.**	Sept. '56
National-United States Radiator Corp. Heating equipment	**Union Asbestos and Rubber Co.** Air conditioning division	July '56
American-Marietta Co.	1. **Dragon Cement Co.**	Oct. '56
	2. **Presstite Engineering Co.** Sealing, insulating and adhesive products	Mar. '56
	3. **Keystone Lime Works** Chemical and building lime	Jan. '56
	4. **Tellyer Concrete Pipe Co.**	Jan. '56
	5. **Southern Cement Co.**	Nov. '55
Waco Manufacturing Co. Heavy and light pressure pouring panels for construction	**Midwest Concrete Form Co.** Concrete forming panels	Nov. '56
Texas Industries Inc. Concrete, related products	1. **Freiberg Mahogany Co.** Veneer, mahogany lumber	Aug. '55
	2. **Schwartz Supply Co.** Ready-mix concrete and building materials distributor	April '56
	3. **Redondo Tile Co. Ltd.** Ceramic tile for walls and floors	Aug. '55
	4. **Twin City Concrete Products Co.**	June '56

ers, Inc., general contractors; Pacific Crane & Rigging Co., service contractors for mobile cranes and rigging equipment; and Belvear Truck Co., heavy equipment truckers.

Each acquisition increased Macco's ability to offer customers a "package deal"—one of the chief reasons for mergers by contractors and engineers.

On rare occasions, a contractor will acquire a materials firm to insure adequate supply of a certain material or to obtain a better price. But effects of such mergers are limited.

What are some of the other reasons for construction industry mergers? Taxes, certainly.

A company with large earnings often goes looking for a company with heavy losses. Losses of the acquired company can be deducted from profits of the surviving firm, reducing the latter's tax liability.

The threat of inheritance taxes forces many firms to sell. Sale for cash or readily marketable securities in anticipation of death is common.

And, a family-owned business with no members to carry on when the founder dies often is placed on the market.

Sometimes a firm is acquired because it has certain executives which another established company wishes to obtain.

Then, there are market factors, changes in supply or demand, substitution of materials, new products, or regional distribution problems.

The increasing complexity of business, coupled with labor problems, often discourages management of small business.

Decidedly in the minority is the "financial operator" who purchases a company with a large undivided surplus, mulcts the company by declaring excessive dividends, then sells out when the treasury is depleted.

Will mergers stop?

Only two things seem likely to stop the current merger trend: an economic recession and/or the federal government.

The federal government, which can act on mergers that restrict or tend to restrict competition, has gone fairly slow in legal action against merging firms.

The Senate, through public hearings, has put the spotlight on some of the less desirable economic effects of mergers.

But beyond unfavorable publicity, there is little more that Congress itself can do. The present antitrust laws are so written that some legal experts feel they could be used to stop almost any merger.

However, Attorney-General Herbert Brownell feels that there are a few loopholes that could be closed.

He will try again in the next Congress for passage of his own antitrust legislation, including a requirement that companies give the government advance warning when they plan to merge.

First Sewage Grants Approved

PHS okays federal aid for two cities to get the $500-million program under way; mayor's group asks for more money.

U. S. Public Health Service this week formally kicked off its 10-year, $500-million program to help cities build sewage treatment plants by approving two construction grants totaling $396,888—the first grant approvals since the enactment of the Water Pollution Control Law last August.

Getting the first okays were projects to serve two small communities—Higginsville, Mo., and Meridian, Miss. PHS agreed to put up $146,888 of the $521,000 total estimated cost of the Higginsville project and $250,000 of the $1,992,100 that the Mississippi municipality has earmarked for sewage treatment works construction. P. L. 660 authorized $50 million a year in federal aid for such construction but limited the federal government's share for individual projects to 30% of cost or $250,000, which ever is lower.

The two projects were the first of 16 awaiting federal action as applications for federal funds began to feed into Washington from state pollution control agencies late in November. PHS construction grants officials are now looking over the 14 others—for seven towns in Missouri, two in Mississippi, two in Wisconsin and one each in South Dakota, Wyoming and Alaska. Officials expect the volume to climb steadily from now on; already word has gone out to PHS regional offices to submit bi-weekly reports on applications awaiting state agency action in their areas.

• **More steps ahead**—This week's action by PHS must be followed by several other steps before either Higginsville or Meridian officials can lay hand on the federal dollars ticketed for their projects. The interim steps required, in order, are: PHS' regional office will formally offer federal aid to the city involved; the city accepts the tendered grants and enters a formal grants agreement with the U. S. Surgeon General; the city gets state agency and PHS regional office approval of final construction plans and specifications; seeks construction bids and, finally, gets PHS' approval to award a contract. Federal payments—in four or five installments spread over the construction period—begin only after the project is under construction.

Meridian has been without sewage treatment facilities. The town will spend nearly $2 million to build an interceptor, and an activated sludge treatment plant.

Higginsville (population: 5,000) will use its federal grant to help replace its overloaded and obsolete 30-year-old treatment plant with new facilities. Citizens will soon vote on floating a bond issue to finance the nonfederal portion of construction costs. Higginsville is about 50 miles east of Kansas City, Mo.

These two projects were the first to get the attention of the still expanding construction grants unit in PHS' Water Supply and Water Pollution Control Branch. PHS called on Oregon sanitary engineering director Curtis M. "Cy" Everts to set up the unit and serve as its first chief. His temporary assignment completed, Everts returned to Oregon this week. PHS has not yet named a successor.

While PHS was getting the new program into gear, its chief beneficiaries—some 10,000 cities and towns with sewage control problems—launched new moves of their own to beef up construction grants aid when Congress reconvenes next month. The American Municipal Assn., at its 33rd annual congress in St. Louis (see p. 77) approved resolutions calling for: (1) Amendment of P. L. 660 to increase the $50 million a year limit on federal aid and boost the federal contribution per project to "at least 50% . . . with no ceiling limitation as to maximum amount"; and (2) a "strongly and forthrightly" worded Congressional warning to the Eisenhower Administration—through "clarifying amendments if necessary"—against imposing eligibility rules "curtailing or restricting the effectiveness" of the construction grants program by "denying federal aid to large numbers of our cities and towns with water pollution problems."

The latter, an AMA official explained, stemmed from the "alarm" of many cities during the period when the Budget Bureau and Health, Education and Welfare Department officials were wrangling over criteria governing propriety of federal aid. The criteria that finally emerged less than two months ago were a good deal less restrictive, the AMA spokesman said, than those proposed originally by the Budget Bureau. AMA, however, wants Congress to issue a "warning for the future against restrictive rule-making" by federal administrators of the program.

From a practically untapped source of mortgage funds . . .

A Million Dollars a Month to Lend

A construction trades union last week pioneered the use of a big, practically untapped source of mortgage funds for financing new homebuilding. And, to make its own funds do its members the most good, the union trained its resources on the construction of new houses that give jobs to building trades men and their contractor employers.

The International Brotherhood of Electrical Workers set itself up in business as a prime lender on new home mortgages insured by the Federal Housing Administration as well as mortgages guaranteed by the Veterans' Administration.

The FHA designated the electricians' union an "approved mortgagee", eligible to originate loans on FHA-insured mortgages and to purchase FHA-insured paper for its own account.

Now is a particularly opportune time for getting into FHA loans. The recent raising to 5% of the permissible interest rate for FHA mortgages has practically dried up the dwindling market for VA's, limited by law to 4½%. With VA's dying on the vines, the electrical workers funds can put a needed bolster under new construction of low-priced and moderate-priced homes in eight metropolitan centers.

As an insurer of mortgage loans, FHA from its beginning, has required certification of institutional investors who would be permitted to purchase and hold the insured loans. There are nearly 13,000 such institutions on FHA's approved list—banks, savings companies and mortgage bankers—plus some 6,600 branch offices of these outfits which also originate loans on mortgage purchases.

The Veterans' Administration makes no similar requirement: Anyone who can make the investment is eligible to originate or purchase a VA-guaranteed home loan.

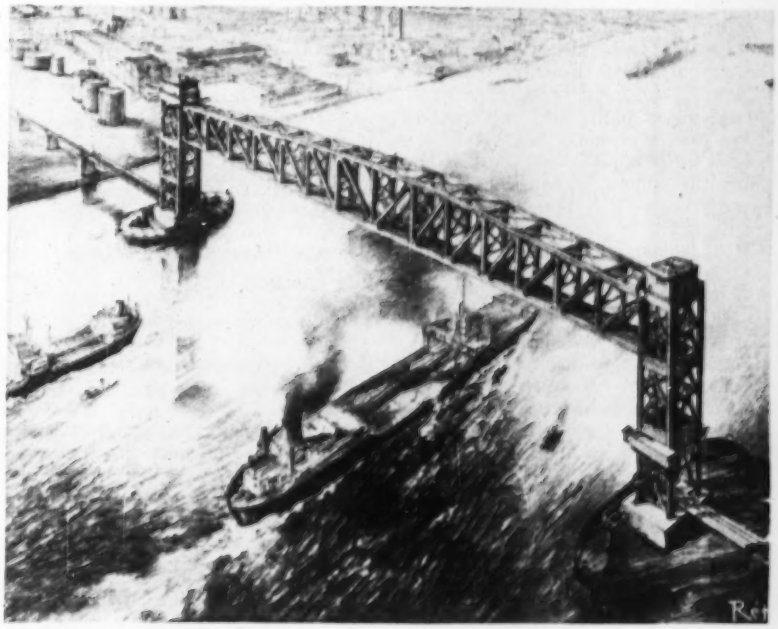
• Significant Icebreaking

Last week's action by the electricians not only boosts the supply of mortgage money for new homebuilding. It has three-way significance in addition: Establishing the first use of union funds to originate both FHA and VA home loans; earmarking the union's net inflow of pension and death benefit funds for new loans on government-backed mortgages, and setting a pattern for pinpointing the funds to those regions where they will have the greatest effect in creating jobs for building trades union members.

International President Gordon Freeman and International Secretary Joseph Keenan aimed their million-dollars-a-month of mortgage purchases at a specific target—financing new house starts by union-shop homebuilders in eight strongly unionized building centers. Officials say the limited number of such metropolitan areas is being chosen to avoid dissipating the funds in too many places. The union isn't naming the areas it has tentatively selected to make purchases. Roughly, the purchases should stimulate building of about 10 houses a month in the eight cities.

• $26-Billion Potential

Investment of a million a month, substantial as that figure is, looks to be only a drop in the much bigger bucket of potential funds that may be utilized to finance new home construction. Including both union and nonunion funds, pension and welfare reserves now amount to some $26 billion. These



Contract Awarded for Longest Lift Span

The world's longest vertical-lift span will be constructed under a $5.8-million contract awarded last week by the Baltimore & Ohio Railroad to the American Bridge Div. of the United States Steel Corp. The record span will be 558 ft long.

Connecting Staten Island and New Jersey, the new bridge (ENR May 3, p. 26) will carry single-track rail traffic across Arthur Kill, a sea arm heavily traveled by tankers serving the oil refineries along the New Jersey coast.

Overall the bridge will be 1,644 ft long. Navigation clearance will be 500-ft wide, 135 ft high. The bridge will replace a 70-year-old swing span 60 ft away that allows 200 ft of horizontal clearance. The new structure will be through-truss type, with Pratt trusses.

To raise or lower the 2,000-ton span will take two minutes. The raised position will be normal since water traffic is heavier than rail traffic.

The project requires 4,000 tons of structural steel and 500 tons of castings and miscellaneous iron. American Bridge will fabricate the materials at Ambridge, Pa.

The lift-span, towers, operating machinery and electrical controls were designed for the Staten Island Rapid Transit Co., a B&O subsidiary, by Parsons, Brinckerhoff, Hall & Macdonald, New York consulting engineers. Charles F. Vachris Construction Co., of Brooklyn, received the substructure contract last April.

Part of the cost will be borne by the Corps of Engineers.

funds are growing at a rapidly increasing rate of $2 billion to $2.5 billion a year, the United States Chamber of Commerce estimates. Nearly all this money is handled by banks, trust companies and life insurance firms, which manage the investment portfolios as trustees or insurance carriers for the employer-employee contributors to the funds.

Insurance companies handle about one-third of the estimated $26 billion of union funds. Under their insurance contracts with the contributors, these companies have sole responsibility for investing the money and meeting all benefit payments to the insured employer or union members. The rest of the pension and welfare funds are for the most part administered under trusteeship contracts, with the trustees investing the cash at their own discretion, within such minor limitations as the contracts may stipulate. Where so stipulated, the employer-employee contributors may participate in major decisions on investment policy.

Like the United Mine Workers and some other unions, however, the IBEW operates its own insurance company—the Electrical Workers Benefit Association, chartered in 1922 in the District of Columbia. This life insurance institution has handled all the union's death benefit funds since 1922. Also, as a chartered insurance company, the insurance association has been an "approved mortgagee" for FHA loans since the government agency opened in 1934.

When the union started a pension fund of its own in 1933 and a similar joint matching fund—by agreement with the electrical contractors—in 1946, the managers of the new funds used the approved insurance affiliate to some small degree for purchase of FHA mortgages. Most of the money in the pension funds, however, went into government bonds, with only a minor amount into corporate securities and government-backed mortgages. The bulk of the mortgage investments were made in VA home loans, which the funds could buy directly, without resort to the insurance affiliate.

Heavy buying of governments has been typical of pension and welfare funds controlled wholly by unions or jointly by unions and employers. The electrical workers, however, decided two years ago to broaden investment possibilities for their pension reserves, allowing wider participation in government-underwritten mortgages. The union's 1954 convention voted minor amendments in the constitution and bylaws that made the organization eligible for FHA approval. The formal approval came through last week.

Now the electrical workers are throwing the full weight of their life insurance and annuity reserves into the breach. Their effort has the full support of Paul M. Geary, executive vice president of the National Electrical Contractors Association, who manages the matching fund as joint trustee with Kenman. Even before the FHA designation came through, the insurance and pension funds in combination had invested $3 million during preceding five weeks in new mortgages, Kenman says. Most of the purchases were VA mortgages.

Boston Boil-Up

Mass. Pike delayed and route to Boston becomes a controversial problem

On the heels of announcement that because of floods, steel shortages and other factors, opening of the Massachusetts Turnpike has been set back to May of next year, comes word that several altercations have flared up over plans for a tollroad extension, which would carry motorists directly to the heart of Boston from its present eastern terminus.

The 123-mi project, which runs from the New York State line near West Stockbridge, Mass., winds up—under the original $239-million program—at Weston on circumferential Route 128, which is a north-south bypass of Boston. Inner suburbs are concerned with the route that might be chosen for the extension.

On one hand is William F. Callahan, turnpike authority chairman, who contends that the only solution to a newly generated traffic problem of fast transportation between the capital city and its western suburbs is early construction of the projected pike spur. On the other side are citizens of towns that lie on the proposed route.

Most strongly opposed to the link are the people of Newton, whose town would be divided by the extension. In addition, they have voiced disapproval of a toll facility in any case, claiming that the connector should be a freeway, if constructed.

Further, Newtonians are opposed to a proposition for use of right-of-way of the New York Central Railroad owned Boston and Albany Railroad as a route for the link, claiming that such a project would deprive them of their rail road commuter service.

Another plan has been aired by Boston's Mayor John B. Hynes, who also favors extending the toll road into the city. He has filed proposed legislation that would permit Boston to borrow $50 million toward a new city hall and governmental area. Part of that package would be a new federal building, which would be built by the city and sold to the federal government.

Time for Teamwork

Connecticut may integrate its state water agencies

A proposal to reorganize Connecticut's state water agencies into a single water resources commission may be placed before the state legislature in January.

The move for integration developed as a result of studies by a temporary commission on water resources named by the 1955 session of the legislature.

The new commission would comprise the present state water commission, state flood control commission, water policy commission, and the state board for supervision of dams and erosion control divisions. Although there is no conflict of major policies now, according to William S. Wise, director of the state water commission, unity might be more efficient and produce better results.

• **Survey results**—The full report of the temporary commission will not be completed until January. But the geological survey section of groundwater conditions, compiled by Robert V. Cushman, geologist, has been released. Some of the findings are:

• Iron content in groundwater, for some unexplained reason, shows signs of increasing.

• In the Hartford area, test wells show a high concentration of calcium, magnesium and sulfate, while salt-water seepage into fresh-water underground supplies near the shore calls for further study.

• Since pumping has decreased in the Mill River section of New Haven, the fresh-water table has risen 2½ ft from 1939.

• **More study and research**—Wise considers present information on Connecticut groundwater supply aside from Connecticut's present requirements, ". . . very inadequate for a state hoping to bring in more industry." He believes a final summary of the temporary commission may show that much wider study and research are necessary.

For example, Wise said, a current survey and mapping of bedrock and ground formations by the state geological survey will assist greatly by showing likely water gathering places and resource locations for water. Cushman's report calls for continuation of such work, noting the need to secure location and amount of groundwater in the state for further information on its chemical makeup and quality, for expansion of measurement activity and the factor of encroachment of salt-water on supply.

With Ohio leading in industrial use . . .

Industry Told Water Law Needs

Ohio's chif water engineer foresees trouble for his highly industrialized state unless it acts fast on water development and conservation. And he has some definite ideas on what needs to be done.

Addressing an Ohio industrial water forum co-sponsored by the Ohio Division of Water (Department of Natural Resources) and the state's Chamber of Commerce last week, C. V. Youngquist, Director of the Water Division, raised a number of questions.

He warned that growing industrial needs, the rate of population increase, problems of municipalities, and the possibility of agriculture going to irrigation as a means of increasing production spells future trouble in Ohio unless action is taken.

When figures are totaled for this year, he said, Ohio will lead the nation in industrial use of fresh water. And its needs will increase.

As a result, he advised, the state must continually appraise its sources, quantity and quality of available water. It must establish the legal, legislative, governmental and financing framework required for the future development of its water resources.

• **Call to action**—Water policies must be coordinated at local, state and federal levels. There must be water management legislation and programs to implement agreed-upon policies, Youngquist urged.

"Bold and forward-looking action on water resources by the state," he said, "can be a vital factor in the development of the state."

He blamed the lack of advance and growth in some areas of Ohio on the fact that those areas are "water poor." They don't lack water, he emphasized, but streams are not regulated and local communities are too poor to finance the needed improvements.

Youngquist thinks that the state should assist in such improvements, recapturing its share of the cost through direct assessment, sale of water or increased tax revenues. He also believes the state should now begin an orderly and long-time procedure of acquiring land for potential reservoirs, and should push enabling legislation.

Such laws could outline the procedure by which citizens of a community might organize, prepare the petition for a preliminary survey of needs, and provide for legislative action authorizing the Division of Water to make a project report.

Thereafter, the state house and Senate committees would be required to take action. If favorable, the legislature could create the watershed district that would have power to levy taxes and assessments for construction purposes, issue bonds, and retire them with proceeds of a millage assessment on all property or by sale of water or rental of facilities.

"The need for new approaches to water resources problems and needs is with us now and will become more insistent," the water chief emphasized.

Youngquist's address was part of a day-long program in which Ohio industrial leaders heard local, state and federal leaders discuss mounting industrial, municipal and other demands on water from Lake Erie, the network of state streams and the underlying water table.

Seattle Sewers

$50-million program near for the metropolitan area

A $50-million sewerage construction program—extending to 1970—awaits completion of a study of the Seattle metropolitan area.

This figure includes a treatment-works program for the City of Seattle running to $25 million (ENR May 3, p. 28).

Until now, no survey has been made of the entire metropolitan area, which includes a number of smaller municipalities and sewer districts. But these smaller municipalities, which dump their treated and untreated sewage into Lake Washington, have been pressing for early action as pollution in the lake increases.

Engineers generally agree that sewage from these areas eventually must be piped to Puget Sound. This would be an expensive project that would probably necessitate formation of a metropolitan sewer district.

The $130,000 comprehensive survey of the metropolitan area is being done by the San Francisco consulting engineering firm of Brown & Caldwell, retained principally by the Seattle City Council.

Although the final report is not due until Mar. 1, 1958, interim reports are being asked so that public agencies in the area can use them as a basis for preliminary planning.

A first report—confined largely to a review of facts now available—may be made by the end of February of next year.

This year Seattle, for its own treatment-works program, voted a special sewer charge that will raise funds at the rate of $2.5 million a year. Also, bids have been called for the first project under this program—enlarging capacity of the Lake City treatment plant from 2½ mgd to 10½ mgd—and plans are under way for another treatment plant at Alki Point.

Texas Water Group Petitions To Halt McGee Bend Project

The Neches River Conservation District has filed suit in federal district court to prevent the Corps of Engineers from building $50-million McGee Bend Dam on the Angelina River near Jasper, Tex.

The Corps, with $5.5 million of construction money appropriated, had hoped to get preliminary work under way this year (ENR, Aug. 9, p. 18).

The local district, created many years ago but inactive until recently, objects to the flooding out of about 12,000 acres of timber land and proposes a smaller dam at the McGee Bend site plus several dams upstream on the Angelina (which joins the Neches River 10 miles below the controversial site).

Another local group, the lower Neches Valley Authority, supports the federal project and sees the court action as another vain maneuver by timber interests to delay construction.

The case is expected to be heard in the spring.

Spring Start Is Scheduled For $6-Million Bus Depot

The Great Lakes Greyhound Bus Line is about to begin razing an entire city block in the heart of downtown Detroit for construction of its new $6-million terminal.

Construction will begin early next spring and be completed by December 1958.

Because the new terminal will contain parking space for 600 cars, Detroit's Municipal Parking Authority has abandoned plans for construction of a $1.5-million parking garage across the street.

Long-Range Traffic Planning Gets Under Way in Louisiana

Engineering work has begun on a $7.3-million long-range traffic interchange to be built for Houma, 60 miles west of New Orleans.

According to R. B. Richardson, Director of the Louisiana Highway Department, authorization has been given for acquisition of all rights-of-way needed for 5.5 miles of divided four-lane highway. The project will include a tunnel under the Gulf Intracoastal Waterway and a bridge over the canal at Houma.

HOW TO HANDLE
WET JOBS

AIR BASE
DRAINAGE PROJECT

Charleston, S. C.

Contractor: C. Y. Thomason Co.

WELLPOINT ENGINEERS CUT
UNIT COST WAY DOWN

THIS JOB required the laying of 2 miles of 18 in. to 48 in. concrete-pipe storm-sewer in wet trench (depth ranged from 14 to 21 ft). Apart from ground water, the Griffin Wellpoint engineers also had to contend with a sub-soil of erratic nature, necessitating sand filters around most of the points.

• Who'd think such an operation could be rushed through at extremely low unit cost? Yet it was. Thousands of dollars were saved in the installation alone by the use of special slip-on hose-swing joints (showing in photo above.)

• Two wellpoint systems, with 2 different crews, kept working simultaneously, thus drying job "on the double." Was contractor pleased? So much so that both of the wellpoint systems are being permanently retained.

• For "quick-dry"... specify ... Griffin.

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WELLPOINT CORP.
881 East 141st Street, New York 54, N. Y.
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In Canada: Construction Equipment Co., Ltd.
Toronto Montreal Halifax

Engineers' Salaries

State highway men get 6% pay raise in Michigan

Michigan's Civil Service Commission has approved a 6% pay increase for engineers in an attempt to reduce the attrition of state engineers to private industry.

Under the new pay scales, a graduate engineer with no experience would start at $5,115 and climb to $5,992 in four years, if he remained at the same grade.

Actually, the State Highway Department's personnel men say a man showing "normal progress" would reach the $6,639 bracket in two or three years.

Carlos A. Weber, Deputy State Highway Commissioner for Michigan, and chief engineer, said his department is hard pressed to obtain enough engineering talent to keep up with increased highway construction under the new federal program.

"With the help of electronic computing machines, private engineering companies and reorganization of the Highway Department, we are easing the strain somewhat," Weber said.

He added that the Highway Department feels that it should have about four engineers for every $1 million in highway work, although some states try to maintain one engineer for every $6 or $8 million in road work.

"We have found that we were down to two engineers per million dollars, but we feel we can get along by using every trick we know," Weber said.

The department is giving more of its work to outside firms, particularly to free its own men from the burdensome detail of bridge design.

The department is using people "with only a smattering of engineering training" for some routine jobs formerly performed by engineers.

"We are letting jobs in bigger chunks than we used to," said Weber. "It is easier to handle paper work on one $5-million job than it is on one-hundred $50,000 jobs."

The Highway Department keeps about 35 graduate engineers in its in-service training program, giving them an opportunity to work in each of its seven divisions.

In the summers, nearly 300 student engineers from colleges in Michigan and neighboring states are hired—with the hope that some will later return to the Highway Department after graduation.

Key Pollution Control Plan To Be Prepared for Potomac

The Interstate Commission on the Potomac River Basin has engaged Abel Wolman & Associates, Baltimore, to outline an area-wide pollution control plan for metropolitan Washington. Then as funds become available in following years, the base pattern is to be filled out.

Wolman's broad plan is to cover population forecasts, quantity and quality of sewage to be expected and hydraulics of the Potomac River; it is to propose various alternate control plans and administrative procedures. This first study is scheduled for completion in about eight months.

Funds made available under Public Law 660, the new federal Water Pollution Control Act, are being utilized by the Potomac Commission to pay its consultant.

Contract Let for St. Lawrence Bridge

Contracts have been awarded for both substructure and superstructure of the international high-level suspension bridge across South Cornwall Channel of the St. Lawrence River (ENR, Oct. 4, p. 32).

For the superstructure and south approach, a $4.8-million contract went to U. S. Steel Corp., Cleveland. The contract was awarded by the Corps of Engineers, agent for the St. Lawrence Seaway Development Corp., after a total of two bids was received.

The substructure contract for $1.2-million was awarded to McNamara Construction Co., Ltd. of Toronto—lowest of three bidders.

The substructure is expected to be completed by Aug. 31, 1957, and the bridge ready for traffic by July, 1958.

Design of the bridge is by D. B. Steinman of New York City.

Raves for no ravin' beauty...

"What a beating! But in 12 years, trucks have never had a lubrication failure!"

FOX RIVER'S MIGHTY MACHINES all provide trouble-free performance using Cities Service Gasolene, Diesel Fuel, and Lubricants. These outstanding products help the company operate at 150 tons per hour.

THAT'S DUST, BROTHER! This motor, buried in dust, is typical of operating conditions at Fox River Stone Company. Yet, using Cities Service Pacemaker Oil, there's never been a bearing failure. Never any lubrication problems.

Fox River Stone Company, Elgin, Illinois, reports trucks wear out externally, are still good internally using Cities Service Lubricants.

Operating at the rate of 150 tons per hour under the toughest conceivable quarry conditions, Fox River Stone Company produces barn and agricultural lime, 2" and 3" stone for road construction, "A" and "B" binder for asphalt road construction, flagstones, and a host of other crushed stone products.

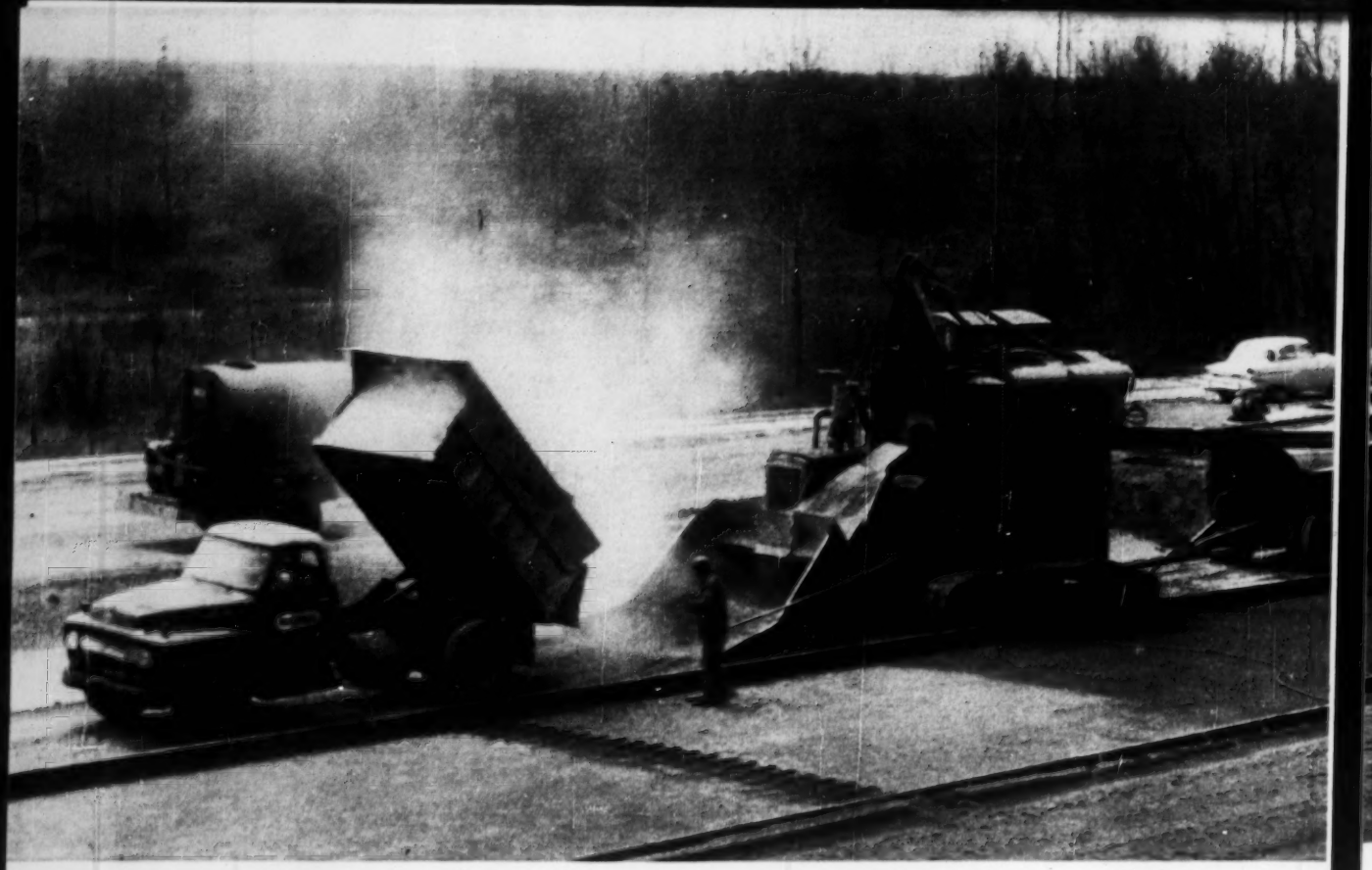
Yet, during the last 12 years, there's never been a lubrication failure of any kind in any piece of machinery using Cities Service Lubricants.

With the aid of Cities Service Gasolene, Diesel Fuel, and Trojan H-2 Multi-Purpose Grease, Fox River's many shovels, pay loaders, and trucks have given constantly flawless performance. And despite the extremely dusty quarry conditions, exposed electric motors have never lost a bearing using Pacemaker 150 T Lubricating Oil.

Not one lubrication failure in any of this equipment during 12 years of rugged operation! That's Fox River's record with Cities Service and it can be your record when you start using Cities Service Products. For information, talk with your nearest Cities Service representative or write: Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS



You can depend on PAVING EQUIPMENT WITH for the BIG JOBS AHEAD

BLAW-KNOX PAVING EQUIPMENT
proved on Turnpikes and Superhighways across the Country

On Turnpikes and on Superhighways all across the country Blaw-Knox Concrete and Bituminous Paving equipment units have proved they have what it takes to produce big capacities to rigid specifications under tight working schedules. Among the major highway projects where Blaw-Knox equipment has been proved are: Pennsylvania Turnpike, New Jersey Turnpike, New York Thruway, Virginia Turnpike, Ohio Turnpike, Indiana Turnpike, Massachusetts Turnpike, Kansas Turnpike and the Florida Turnpike. This same equipment has proved equally successful on smaller paving projects.

In the Blaw-Knox "Complete Package" you get the most efficient concrete paving outfit available, because every piece of equipment is built by one responsible, experienced manufacturer, with each unit engineered to match the others in size, capacity and performance. Road Forms carry the Precision Subgrader, Transverse Blade Spreader and Finisher. Automatic Batching plants will keep two of the new hydraulic MultiFoote Pavers working at peak capacity.

On Bituminous Paving projects you can have the same efficient low cost production. This Blaw-Knox equipment assures you the biggest capacities for spreading the sub base material, laying the pavement mat, to finishing the shoulders. Blaw-Knox Base Pavers will spread up to 400 tons per hour of base material *without segregation*. The new Model PF-90, described on the opposite page, can handle up to 200 tons per hour of bituminous paving. The Blaw-Knox Road Widener will assure fast work of shoulder building without wasting material.

When you have a Blaw-Knox paving outfit for either bituminous or concrete paving you get preventive maintenance since all your equipment belongs to one family. It's standard practice for your Blaw-Knox trained service man to check each unit on each service call, to stop trouble before it starts.

You can get the complete story on Blaw-Knox paving equipment from your nearest Blaw-Knox distributor. Many of these high capacity units will be at the 1957 A.R.B.A. Road Show.

BLAW-KNOX PAVING EQUIPMENT

Road and Airport Forms · Manual or Automatic Concrete and Aggregate Bins and Batchers · Precision Subgrader · MultiFoote Concrete Paver · Concrete Spreader (with or without Vibratory Attachment) · Concrete Finisher (with or without Vibratory Attachment) · Base Pavers · Bituminous Paver Finisher · Road Widener · Trench Roller · Street and Gutter Forms · Concrete Buckets

EXPERIENCE

Blaw-Knox 1957 Model PF-90 is even Better!

The Blaw-Knox Model PF-90 Bituminous Paver Finisher now has engineering advances that provide higher paving speeds and greater paving width. A wider range of paving speeds is provided with a new two-speed axle that gives a low working speed of 10 feet per minute to a high paving speed of 52 feet per minute. The PF-90 also has a higher travel speed of 7.4 miles per hour to give you greater mobility on between-paving moves.

Another important feature of the new Model PF-90 Paver is the increased paving width. It can now lay a bituminous mat 16 feet wide, three feet wider than the previous maximum width of 13 feet. This new paving width has been tested and proved on many types of operation including the Massachusetts Turnpike.

Other important features of the Model PF-90 include the rubber tire mounting which eliminates from 600 to 700 wear parts typical of crawler mounted pavers. The PF-90 also has a big 10-ton hopper so it can take a full truck load without spillage. You can see these features and many more at the A.R.B.A. Road Show next month.

BUILD BETTER ROADS TODAY · FOR A GREATER AMERICA ·

See you at the ROAD SHOW CHICAGO Jan. 28-Feb. 2, 1957

AMERICAN ROAD BUILDERS ASSOCIATION

Blaw-Knox will show the latest and best at the 1957 Road Show

The Blaw-Knox exhibit at the A.R.B.A. Road Show, from Jan. 28 through Feb. 2, 1957 will show important equipment that you will want to plan on using in your future paving jobs. Some of the equipment shown will include: New Bituminous Paving Equipment, an Improved HiBoy TRUKMIXER, Improved Automatic Batching Equipment, the Time-tested Concrete Spreader, a Base Paver, Road Widener and a Trench Roller.

The Blaw-Knox Exhibit is located at Booth 727 in the Exhibition Hall at the International Amphitheatre

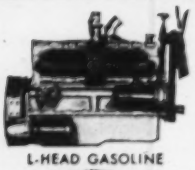
BLAW-KNOX

BLAW-KNOX COMPANY

CONSTRUCTION EQUIPMENT DIVISION

41 Charleston Ave., Mattoon, Illinois

This is HERCULES MOTORS Today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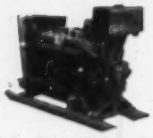
Yes, this is Hercules Motors, today—all types of dependable power for modern industry. The Hercules line includes more than 90 different models of engines and complete power units ranging from 3 to 500 H.P.

An ever-growing list of customers are solving their power problems with these types of Hercules Engines: L-head gasoline, overhead-valve gasoline, natural gas, L.P.G., turbulence-chamber diesels, direct-injection diesels, Turbo-Charged Diesels, marine diesels and complete open, closed and base type power units.

Write for more information on any of these dependable power plants. Our sales-engineers will be happy to help solve your power problems. No obligations, of course.


L.P.G. OR NATURAL GAS

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Seaway Split

Canada now definite on plan to provide parallel canal—U. S. again objects

Canada wasn't bluffing.

In an exchange of notes following long debate on the question, Canada now has made definite its intention to provide for a totally Canadian St. Lawrence Seaway—to be built whenever it sees fit.

The word came in a note passed recently, but not yet released on either side of the border. The U. S. reply—also not yet released—was a repetition of objections to the move.

In effect, the U. S. has said that it can not give its consent to the Canadian decision, but neither will it do anything to obstruct it. Until the exchanged notes are made public it will not be known on what basis the U. S. persists in objecting to the Canadian's unilateral decision.

Canada's decision will have no effect on construction under way. Long Sault Canal will be completed as planned within the U. S. shore of the river. But Canada will spend an estimated $17 million, not in the plans, to dredge a 27-ft navigation channel along the north side of the St. Lawrence to Cornwall, Ont., and on to the Barnhart Island Power Dam.

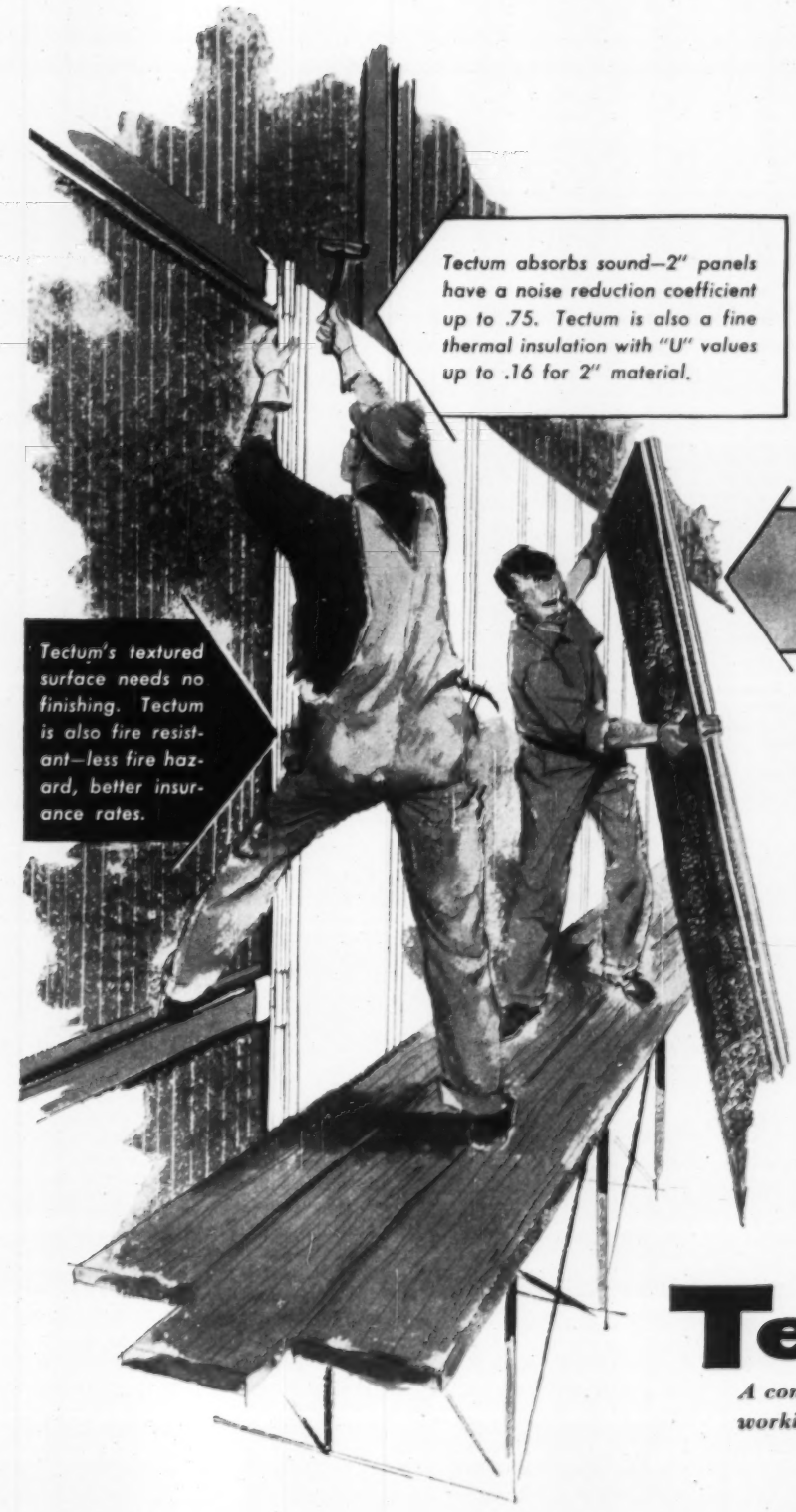
• **For an eventual saving**—With this much accomplished before the power project and Seaway are finished in the International Rapids section of the river, Canada at some later date will be able to construct a north-shore canal for about $50 million. Without the preliminary dredging done downstream, future cost of the parallel Seaway would be nearer $100 million, more costly than doubling capacity of Long Sault Canal on the New York side.

Another factor in Canada's decision to dredge now is the desire to make Cornwall, Ont., a deepwater port right away, so that it won't be bypassed completely by Seaway traffic.

Canada disclaims any intent to build its own Barnhart bypass until traffic has developed sufficiently to demand it, at which time it reportedly intends to consult with the U. S. On the other hand, the Canadians have taken the position all along that duplicate facilities would be desirable.

However, the U. S. is free to put a lock and canal across Rockaway Point at Iroquois Control Dam, to parallel Iroquois Lock on the Ontario side. But while a U. S. lock there was authorized in the Wiley-Dondero Act, it has been dropped from plans in favor of Canada's agreement to build Iroquois Lock (see map ENR Nov. 3, 1955, p. 34).

reduce factory noise with Tectum Sidewall Panels



Tectum absorbs sound—2" panels have a noise reduction coefficient up to .75. Tectum is also a fine thermal insulation with "U" values up to .16 for 2" material.

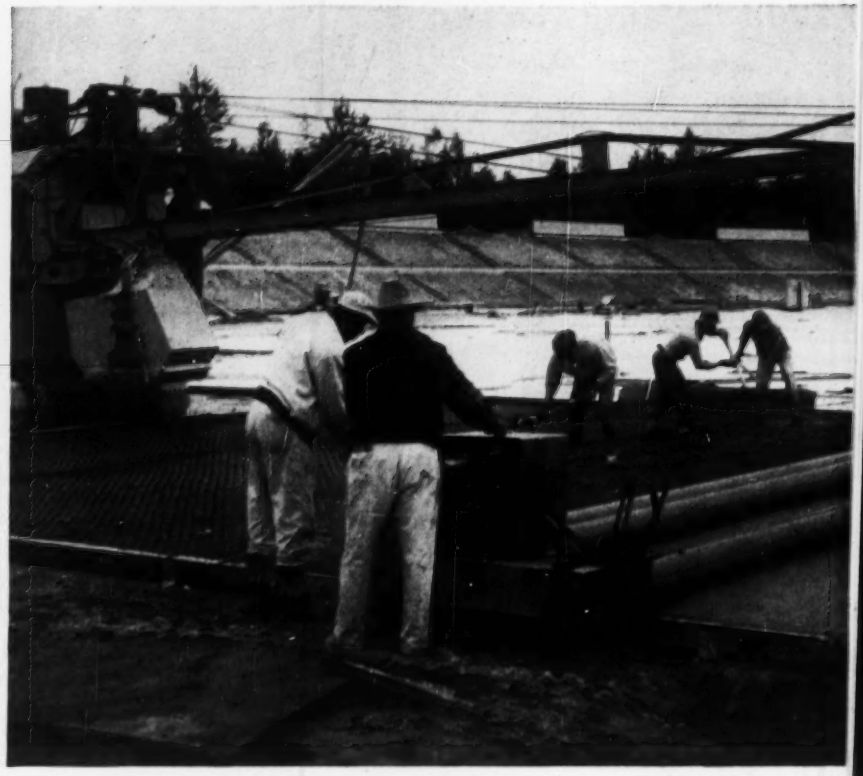
Tectum is structural yet light in weight —withstands abuse in use—easily installed, saves time and labor.

Tectum's textured surface needs no finishing. Tectum is also fire resistant—less fire hazard, better insurance rates.

Tectum panels when used with your choice of steel, aluminum, cement asbestos or other outside covering is the new proven concept in industrial sidewall construction. Tectum Sidewall Panels used in combination with Tectum Roof Deck offer the most effective answer to industrial sound control problems. For complete information ask for Catalog C-100-A. Tectum Corporation, 107 South Sixth St., Newark, Ohio.

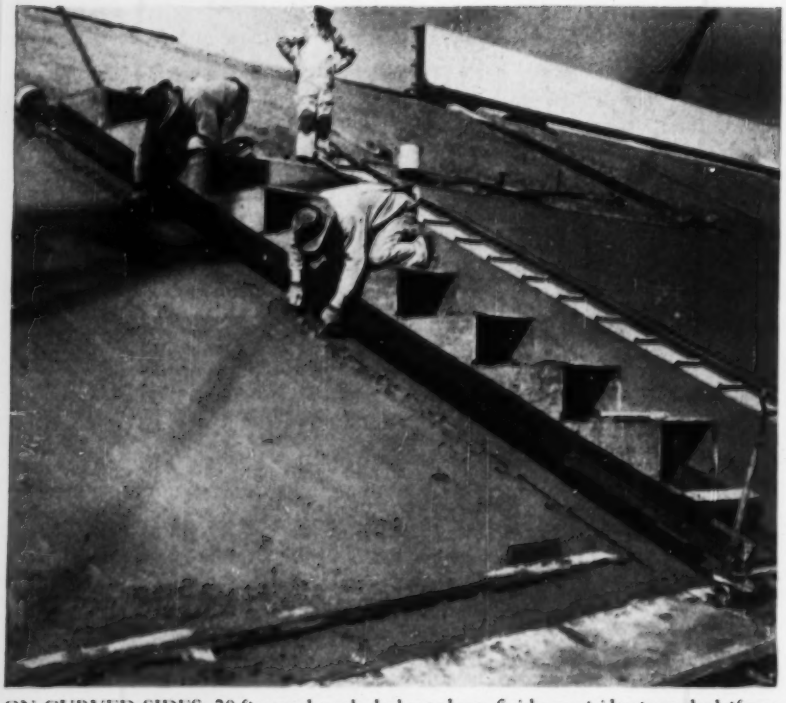
Tectum

A contribution to better working conditions—everywhere



Reservoir liner was designed in 40-ft square blocks to save on subdrains. Contractor extended paver boom to 45 ft, employed 40-ft oscillating roller screed.

Long Boom, Roller Screed Speed Wide



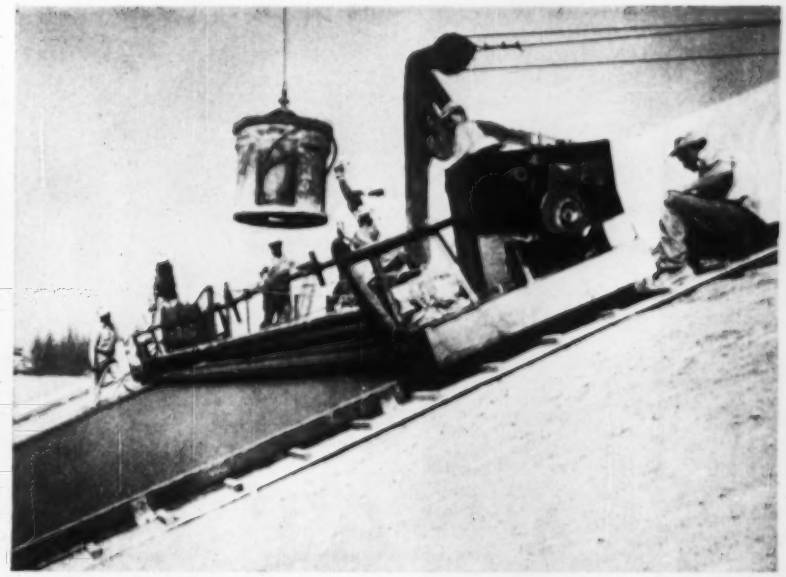
ON CURVED SIDES, 20-ft screed worked along slope, finishers astride stepped platform.

An oscillating roller screed 40 ft wide and a long-boomed paver made everyone some money on a 100,000-sq-yd paving job in Tacoma, Wash. Concrete was placed in 40-ft square slabs as a 6-in. liner for a one-million-gallon reservoir being constructed by the Tacoma Water Division at a cost of $1.1 million.

The city's engineers specified the 40-ft blocks in the belief they would achieve considerable savings over normal 30-ft square slabs since all joints are placed over subdrains, and the joints themselves are quite elaborate. A clever contractor bore out the designers contention.

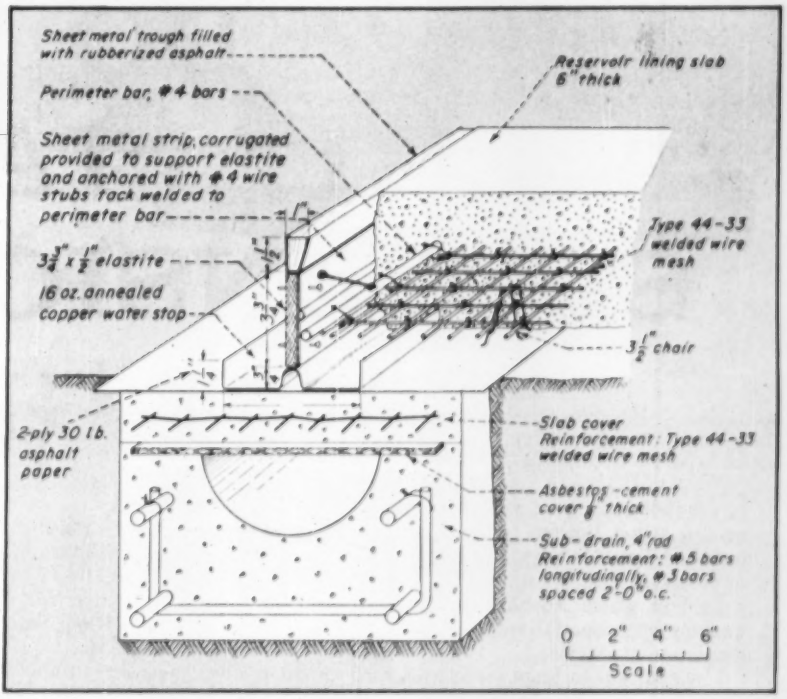
First problem was how to place concrete uniformly over the larger slabs. The contractor extended a 30-ft boom on his dual drum 34-E paver to 46 ft by welding a second cantilever section onto the first and supporting it with a three-part line. The paver's counterweight was increased by three tons. Despite the added support, the 2½-cu-yd bucket could be filled only to half capacity.

During construction, the paver is followed by a self-propelled screed equipped with three 8-in.-dia steel pipes



ON 1:2 RESERVOIR SIDES 40-ft screed works up from the toe aided by 6-part line.

Slab Paving


Sheet metal trough filled with rubberized asphalt
Perimeter bar, #4 bars
Sheet metal strip, corrugated provided to support elastite and anchored with #4 wire stubs tack welded to perimeter bar
3/4" x 1/2" elastite
16 oz. annealed copper water stop
Reservoir lining slab 6" thick
Type 44-33 welded wire mesh
3 1/2" chair
2-ply 30 lb. asphalt paper
Slab cover Reinforcement: Type 44-33 welded wire mesh
Asbestos-cement cover 1/8" thick
Sub-drain, 4" rod Reinforcement: #5 bars longitudinally, #3 bars spaced 2'-0" o.c.
0 2" 4" 6"
Scale

SLAB JOINTS are located over subdrains. Larger slabs save a third on drains.

that strike off the fresh concrete. Net width of 40 ft makes it the largest machine of its type ever built. With it, only a four-man finishing crew is needed.

The front roller is slightly heavier and is mounted a fraction of an inch higher than the other two which ride the side forms. When traveling forward, the screed is propelled by the middle roller at speeds up to 15 fpm. The rear roller moves the assembly in the reverse direction.

The front roller does the heavy work—tamping and initial strikeoff. Two 8-hp engines, one at each end, can rotate the roller between 400 and 600 rpm. Concrete is compacted by an oscillating motion imparted by an eccentric mounting. The roller revolves in a direction opposite from screed travel at rates varied with the workability of the mix. Each engine can operate independently so that one end of the roller may be moved ahead of the other. All controls, however, are on one side of the machine. Slabs are finished to a tolerance of $\frac{1}{8}$ in. in 10 ft.

For use on reservoir sides, where slabs are 42 ft long on a 1:2 slope, the screed starts at the toe and works up the slope with the aid of a six-part line attached to a heavy piece of equipment at the top. On curved side sections, slab widths are only 20 ft and are worked by a smaller screed with rollers 22½ ft long that moves along the slope rather than up it.

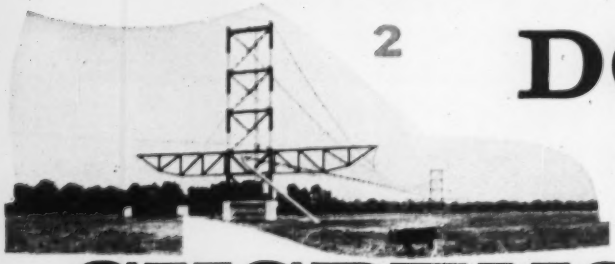
This screed is powered in a slightly different manner. Only one engine drives the front roller which has the added function of driving the screed in reverse (being lowered to the forms at this time). And only one engine powers the other two rollers.

The long-boomed paver and the novel screed are enabling completion of 19 40-ft-square 6-in.-thick slabs a day, or a total of 3,400 sq yd. Daily average of concrete poured is 450 cu yd. The liner slab is reinforced with wire mesh.

Cherf Bros. & Sandkay Co. of Ephrata, Wash., is the contractor. The screed is manufactured by Clary Co., Alhambra, Calif.

George E. Hopkins is chief engineer of Tacoma's Water Division. The finished structure is known as McMillan Reservior.

WHAT SIZE DO YOU TAKE IN SUSPENSION BRIDGES?



It depends mostly on your own requirements. In other words, the suspension bridge is not limited to the monumental, long-span highway crossing alone, but can be used to advantage for a multitude of purposes and for a large variety of spans. From the tiny footbridge to the great highway bridge, they represent a field in which Roebling has served the engineering profession for over a century with specialized technical knowledge, materials and, when necessary, construction services.

In addition to huge structures such as the George Washington and Golden Gate Bridges, suspension bridges of all types and sizes have proved the economical solution for contractors, manufacturers and utilities; parks, estates, playgrounds, golf courses, at river and ravine crossings; connections between buildings, for access to control points at dams and power stations – to mention only a few applications.

Whatever you contemplate; overhead support of material conveyors, of pipes, or of power lines; moving men from one plant point to another or crossing a ravine to the 16th tee, you will do well to take advantage of Roebling's vast experience in suspension systems of all types.

Our facilities, in the creative as well as the material sense, are at your disposal. Write to Bridge Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

1 *The San Marcos Highway Bridge in El Salvador, Central America. It is the first application to a major highway crossing of the Roebling-developed Cable Stiffened Suspension Bridge. Designed and erected by Roebling.*

2 *A pipeline bridge that carries natural gas across the Brazos River in Texas. Designed by Mathews and Kenan, Consulting Engineers; erected by Pittsburgh-Des Moines Steel Company.*

ROEBLING

JOHN A. ROEBLING'S SONS CORPORATION, TRENTON 2, N. J.

Branch Offices in Principal Cities *Subsidiary of The Colorado Fuel & Iron Corporation*

If matchmarks get out of line, (arrow) it means that a San Francisco bank and its 150-ton vault have settled unequal amounts. To correct the condition . . .

Jacks Raise Vault as Soil Settles

SCREW JACK, powered by air motor, is one of four that raise the 150-ton vault structure, when necessary, to keep it at the same level as the bank building.

How to prevent a 150-ton vault from settling faster than the rest of a building posed a knotty problem for planners of the Bank of America branch building at San Francisco International Airport.

Piles were ruled out by the City of San Francisco, owner of the land. And the soil in the area—6 to 8 ft of compacted earthfill on former tideland and marsh—had very low bearing strength.

In expectation of uniform soil settlement in the entire area, the city prohibits the use of piles under any of the one-story buildings with which the area is being developed. But the soil on the bank site is so poor that Dames & Moore, San Francisco soils consultants, predicted that in the next 40 years the vault would sink 10 in. more than the rest of the structure, even though the entire branch building was to be founded on a concrete mat.

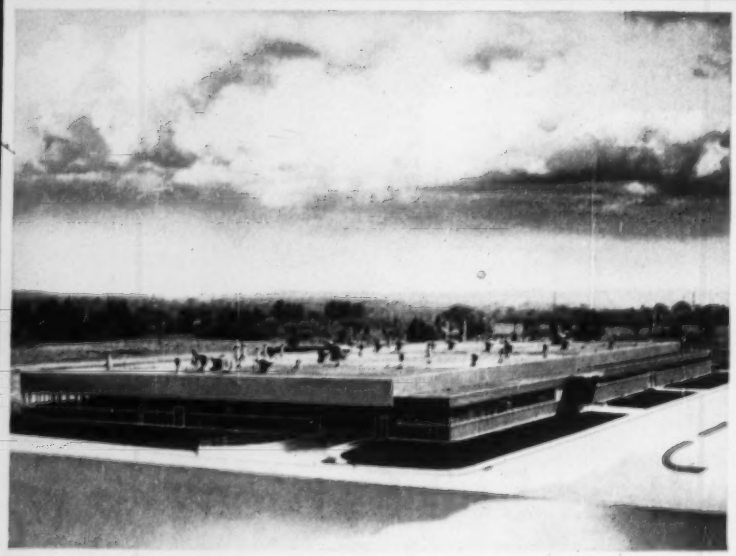
The predicted uneven settlement could interfere with opening of the 3½-ton door of the vault.

The solution arrived at by L. H. & B. L. Nishkian, consulting engineers on the project, was to build in permanent jacks beneath the vault. These would provide a means of raising the entire

Since HOPE'S 1818

STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY THAT NO OTHER WINDOW CAN MATCH

Lok'd Bar FACTORY SASH



New Super-Precision Plant for the Marlin-Rockwell Corp., Falconer, N. Y.
Wigton-Abbott Corporation, Engineers-Contractors

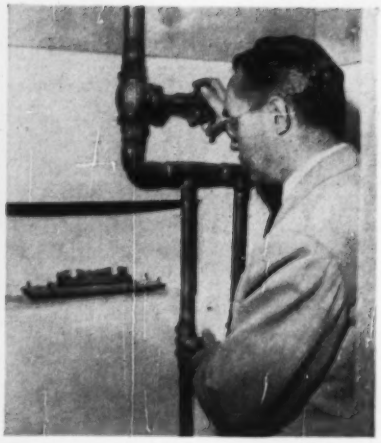
274 HOPE'S STEEL LOK'D BAR SASH
were used in the construction
of this modern plant.

The greater strength and rigidity of Hope's Steel Windows assure ease of operation and weather-tightness that will last the life of the building. In addition, their greater strength permits long, uninterrupted rows of windows; some of the openings in the building shown are more than 200 ft. long.

For full information on Hope's Steel Lok'd Bar Sash ask for Catalog 103E.R.

HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

The Finest Buildings throughout the World are Fitted with Hope's Windows



LEVEL in vault wall enables engineer to correct tilt when operating jack motors.

vault to offset any differential settlement between it and the building proper.

To allow the required freedom of motion, the vault and the bank had to be structurally separate. On its own mat foundation, designed for 400 psf, the vault was built with two walls adjoining the main building. The latter structure was built on a separate mat, designed for 150 psf. The floor of the main building, a 6-in. concrete slab, is cantilevered for 5½ ft around the vault. The designers took this precaution to head off any damage to the main floor resulting from the anticipated excessive settlement beneath the vault.

Match marks were made on the adjoining walls of the bank and the vault as a permanent reference of their as-built relative positions. In addition, sensitive levels were recessed into the vault walls as a visual check of any tilt.

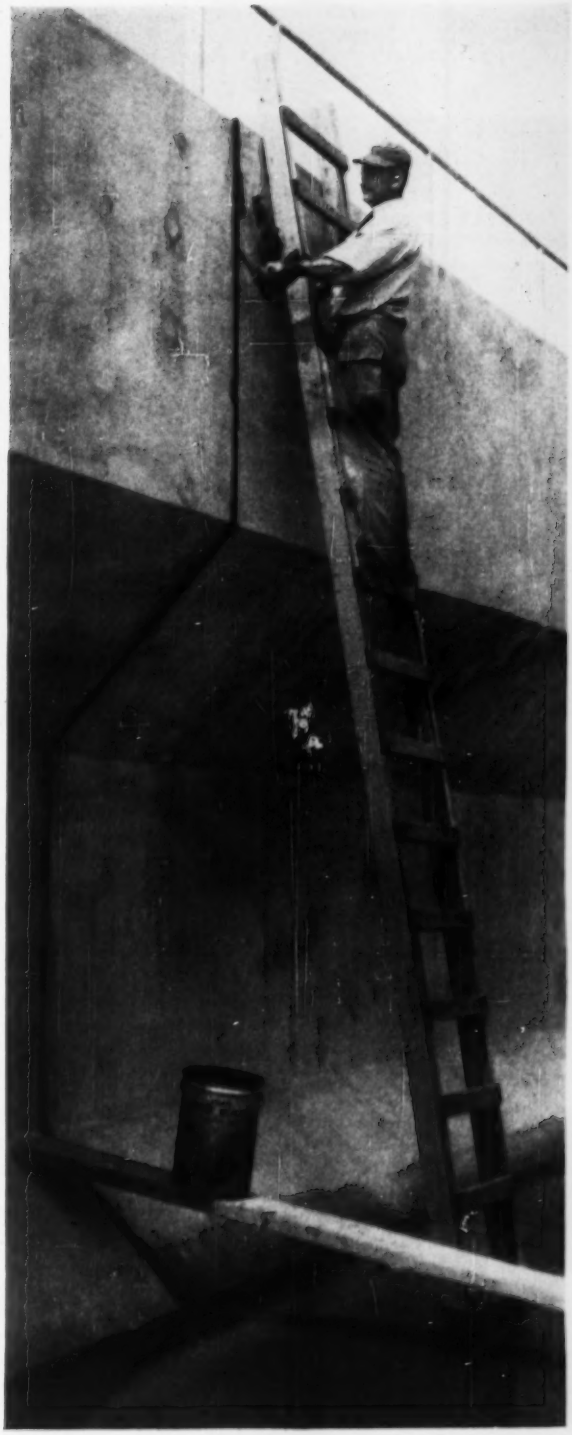
In building the vault, Johnson-Mape, contractors, of Menlo Park, Calif., first constructed an open-top concrete box on the mat foundation, later cast the vault on top of the box. Then in the resulting crawl space beneath the vault floor, they placed four 100-ton Duff-Norton screw jacks. Extended, the jacks support the vault.

Powered by air motors, the jacks are actuated by valves inside the vault. The compressor and related equipment for the motors are housed in a room built on top of the vault.

The jacks stand about 26 in. high. Head diameter is 6⅛ in., base diameter 13 in. Each jack can lift a 75 to 100-ton load 14 in. in a few minutes.

Nishkian is retained to check the settlement and to make any adjustments necessary. The building structure was completed last May and the bank opened for business in October. So far the vault has settled 1 in. more than the building proper, verifying the Dames & Moore prediction.

IGAS®
JOINT SEALER

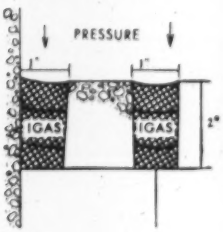


for joints in *concrete*, *metal* and other *construction materials*

Igas Joint Sealer is a tough, resilient, non-meltable mastic installed after concrete hardens — simply and easily. Igas does not dry out or become brittle with age. It is easily installed in vertical, horizontal and overhead joints, and forms a continuous watertight seal, even at the junctions of joints. Igas is available in four consistencies which are effective over a wide range of temperatures.

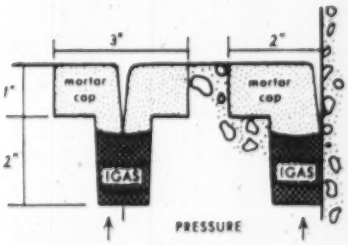
2 BASIC DESIGNS SOLVE MOST JOINT PROBLEMS

TYPE A—Face Pressure



Water Reservoirs
Swimming Pools
Tanks
Parking Decks

TYPE B—Back Pressure



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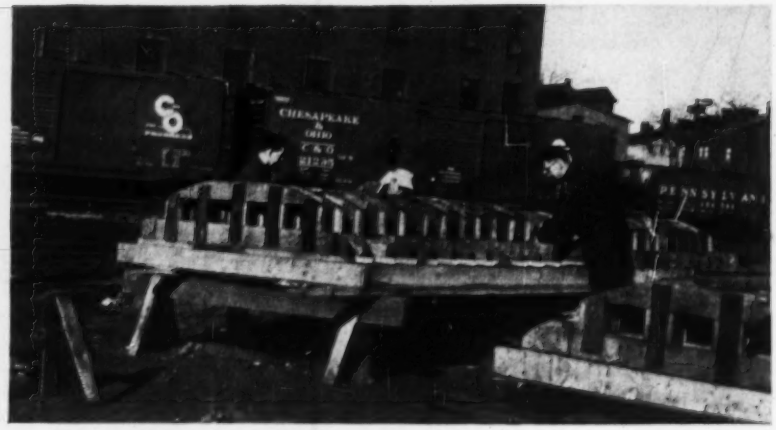


1. CIRCULAR EXTERIOR is a prerequisite for banded forms. Here, previously constructed radius spacers are attached to side panel units before assembly of the boxes.

When foundation problems on the New Quinnipiac River Bridge in Connecticut put the job six months behind schedule, the contractor decided that . . .

Banded Forms Save Time and Money

When adverse conditions throw a job six months behind schedule, one way to bail out is to try another tack.

Wm. M. Moore, Bldg. Corp. and Lopier Construction Corp., New York contractors, on a Connecticut Turnpike bridge job found a way to make-up time lost on foundations by changing to the use of banded forms for the high pier shafts.

The job is a $2.6-million substructure contract for the river crossing section of the turnpike's $16-million Quinnipiac River Bridge and interchange at New Haven. Designed by D. B. Stienman, consulting engineer of New York, the completed structure and its approaches will be two miles long and will contain what is claimed to be the longest plate girder span in North America—a 387-ft reach made possible by four girders each 21 ft 6 in deep at the haunches and 12 ft 6 in. deep at the midpoint.

The section being handled by Moore-Lopier stretches ¾ of a mile, clears nine tracks of the New Haven Railroad and crosses the Quinnipiac River before connecting with an existing bridge on Rt. 1 in East Haven. The 27 piers and one abutment included in the contract require 29,000 cu yd concrete, 1,000 tons of steel H-beam piling, 130,000 lineal ft of timber piling, 950 tons of steel sheeting, 750 tons of reinforcing bars.

With six below-water foundations—three with spread footings carried as deep as 40 ft below river level, and three with H-beam piles up to 170 ft long—the job looked tough from the outset. But it was unanticipated subsurface conditions, both on land and in the water, that caused most of the headaches.

• **Sub-strata inconsistent**—A large part of the area now on dry ground was originally part of the river, and, according to local historians, once was an aqueous storage basin for a sawmill on the west bank. From difficulties in land piledriving it appears that many logs sank to the bottom before the area was filled-in. At the river piers, boulders up to 6 ft in diameter gave trouble.

The real job-stopper, though, was the unexpected depth of the bearing strata. On the east side, where the rock is close to the surface, short H-beam bearing piles are being installed without difficulty. At the river bank, the rock falls off sharply, thus permitting only three piers to be carried on spread footings. Within the 434-ft spread between the next three piers the rock drops to 170 ft below river bottom. From this point on, rock cannot be reached, so all footings rest on timber friction piles—and here is where the delay comes in.

It was expected that the timber piles for piers 1 to 11 would run from 50 ft to 80 ft, with most being under 65 ft. The contractor planned on using easy-to-get southern pine sticks. This plan was changed when test pile operations showed that every pier required piles in excess of 75 ft, with some going to 95 ft.

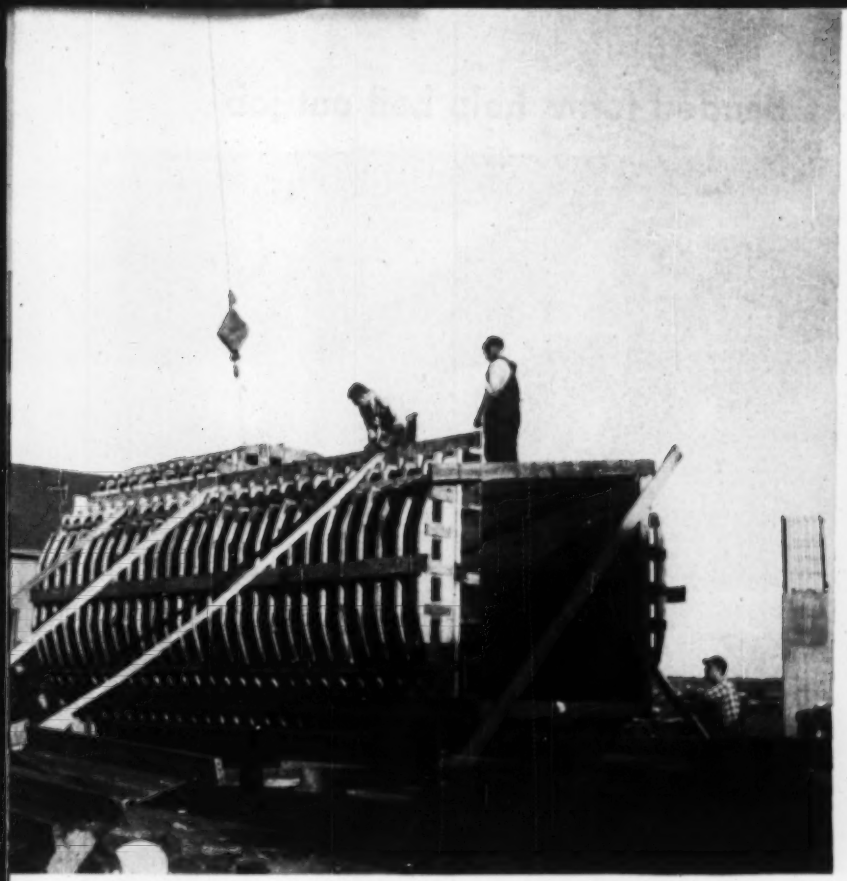
The initial delays resulting from reordering West Coast fir, and subsequent delays caused by slow shipping schedules, will put completion of timber piledriving at least 30 weeks behind schedule, according to the contractor.

A secondary problem may have been caused in part by the sunken logs. Within a single pier, pile lengths occasionally varied as much as 50 ft. Pier 10 has a pile 30 ft long within 6 ft of an 86-footer. When experts sent by both the engineer and the state were unable to solve the problem of pile length variation, it was decided to accept, with certain limitations, piles driven to bearing regardless of length.

In the river, large boulders caused more trouble—but with the sheeting rather than the piles. For the cofferdam of Pier 16—the first one tackled—the contractor drove 55-ft MZ-32 interlocking steel sheeting. Driving was erratic and penetration irregular. After three unsuccessful attempts to clear the bottom with an air lift, a diver was sent down. He reported that more than one-third of the sheets in the 120 x 20-ft box were so badly distorted by boulders as to be unusable. For 23 days on a 24-hr basis, all bent sheets were spotted, pulled, and replaced.

On subsequent cofferdams, sheeting was driven in stages. After every few feet of penetration, the box was cleaned and inspected by a diver. Boulders found beneath the sheets were removed or dropped into holes dug beside them, then clammed or hoisted out. The method saved expensive and hard-to-get sheeting, but did little to save time.

• **Banded forms the answer**—To cut costs and speed the job, the contractor discarded the more usual snap-tie and locking yoke methods of forming in favor of the relatively new "banding method". Since a banded form must have a circular exterior regardless of its internal shape, a certain amount of extra engineering and parts fabrication is required at the start. Once this is done, however, basic fabrication steps are conventional.



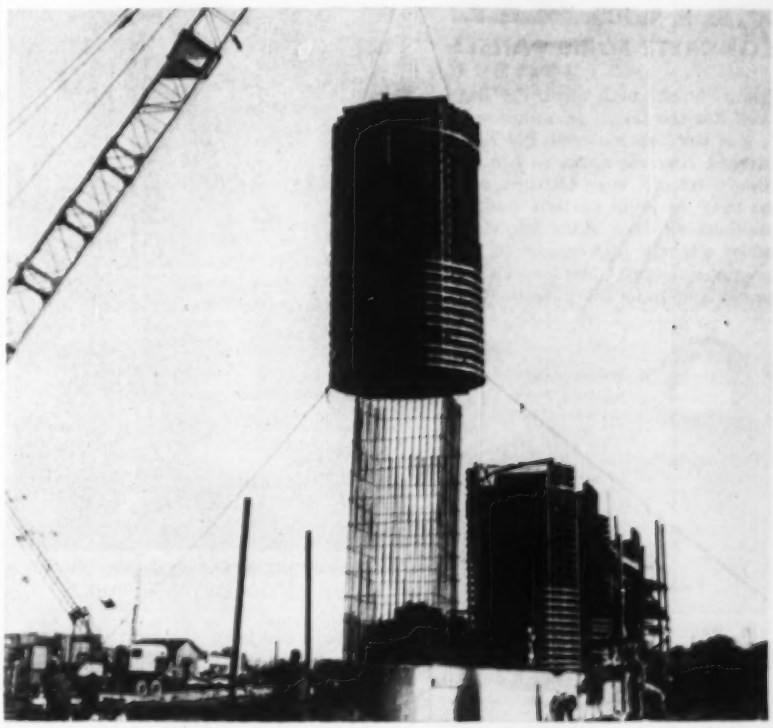
2. HORIZONTAL ASSEMBLY simplifies construction of boxes. Next, two-inch mild steel bands will be tightened around radius spacers before box is raised vertical by crane.

3. A LOOSE BAND is replaced after vertical lift. Very little rebanding was needed.

Plastic-coated plywood side panels up to 55 ft long are individually assembled on a framework that consists of 2 x 6's, cross-braced by shorter 2 x 6's at intervals ranging from 8 in. at the bottom to 2 ft at the top.

After the panels are made up, they are laid face down on a working platform. To each cross-brace is nailed a previously cut wooden "radius spacer," so shaped that its outside surface is a quarter circle. The panels are then assembled as a horizontal box, with the spacers on the four outer sides forming a complete circle. The form is held off the ground by a light frame of widely spaced timbers to permit easy banding. The 2-in.-wide bands of mild steel are passed around the box, aligned with the radius spacers and tightened and crimped at a convenient working height. According to job superintendent William White, it takes less than eight minutes to complete each band, and standard banding equipment does the job.

When completely banded, the box is lifted to a vertical position by a crane. Bands are checked, any loose ones are wedged tight or rebanded. A crane lifts the completed box, and lowers it over the steel protruding from the footing. Once placed, the box is shimmed level and anchored. With the placement of



4. BANDED FORM is lowered into position over cage set in footing. Placement time is figured in minutes—stripping, cleaning and resetting time is less than eight hours.

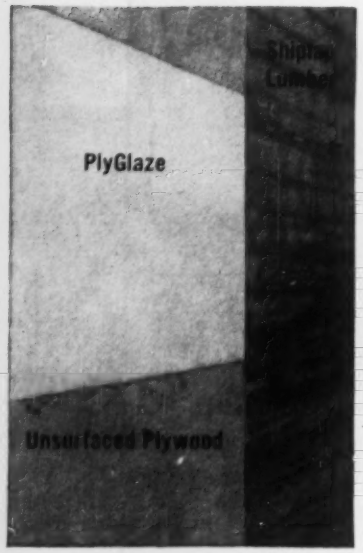


Photo taken right after stripping forms proves that you get the...

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CONCRETE FORM PANELS

READ "finest" both ways: PlyGlaze *itself* has the finest, smoothest surface of any form material; PlyGlaze-formed *concrete* surfaces are the finest—smooth, even-textured, with no trace of grain pattern. Savings on finishing costs alone frequently offset slightly higher cost of this premium material. See Sweet's File or use coupon for more information.

Another member of the famous Tree Life Family of Forest Products

Hard, glossy-smooth wear resistant fused resin-fiber surfaces.

Top-quality Exterior plywood (EXT-DFPA). Standard panel sizes.

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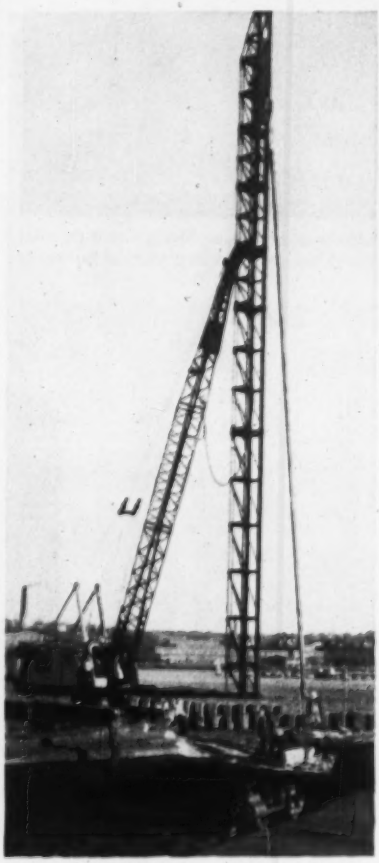
. . . Banded forms help bail out job

DAMAGED SHEETS removed from cofferdam indicates size of obstructions encountered. One third of sheets in first cofferdam had to be replaced.



HANDLING 90 ft long fir piles calls for a big rig. Pile lengths delayed work.

the bent cap form, the bent is ready for concrete which is placed in alternate legs in 4-ft lifts. Actual installation of the forms takes little time. During a test run, using a crane and a two-man ground crew, forms for one pier were placed in two hours.

Fast as this is, the real speed and economy of the banding method is in stripping and finishing operations. There are no ties to snap, no protruding rods to foul, no timber walers or diagonal struts to knock off. The stripping operation involves nothing more than cutting the bands. The panels immediately come apart and are lowered separately for cleaning and resetting. Ease of form removal completely eliminates damage to both concrete and forms.

Although the piers vary in height from 20 ft to 55 ft, uniformity of design makes it possible to adapt any form to any pier within two hours. Up to now, it has never taken more than eight hours to strip, clean, alter and reset a form.

A further economy is a two-thirds reduction in finishing time. With no tie holes to clean, grout and stone, and with no pry marks or gouges to patch, the finishing operation is cut to a minimum.

Hale's Bar Seen as Site Of Tennessee River Lock

Raymond R. Paty, a member of TVA's board of directors, expressed the hope in a recent speech that the next major lock constructed by the agency will be at Hale's Bar on the Tennessee River.

He said the present Hale's Bar Lock will be the most serious navigation bottleneck in the river when the current $35-million Wilson Lock project (ENR, Aug. 30, p. 34) is completed.

Paty made it clear that there are no specific plans for a second lift at Hale's Bar. But he said that the TVA long had realized that two locks might be needed ultimately at all its installations.

The DEW Line (distant early warning line) is over 1000 miles from major sources of supply. Therefore, great reliance must be placed on equipment. That's why Le Roi compressors and Le Roi-Cleveland air tools, world-famous for dependability, were selected to help rush this important project to completion.

Dozens of Le Roi Compressors Defy Arctic Blasts on DEW Line

More than 1000 miles from major supply centers, Le Roi Compressors and air tools work around the clock, rushing completion of this major project.

Air power supplied by dependable Le Roi compressors is helping to build the DEW Line — a system of radar stations located in the icy waste lands of the Arctic. Thousands of tons of equipment have been flown into this white frontier land by the U. S. Air Force or landed on Arctic beaches by U. S. Navy convoys.

Construction activity is now moving at a fast pace. Soon the severe Polar winter will close in on the men and machines. Violent storms will sweep the area while temperatures plunge to 60° below zero. That's why only job-proven construction equipment is used on this important project.

Le Roi air compressors are designed and built to withstand the rugged, adverse conditions of the Arctic. These tough units will produce plenty of air power to operate tools and machines in this bitter land. Trouble-free and easy-starting, Le Roi air compressors, and efficient Le Roi-Cleveland air tools are now helping to complete this enormous job on schedule.

The Distant Early Warning Line, called DEW Line by the men on the northern frontier, will permit advance warning of any enemy plane attack approaching over the North Pole region. DEW Line radar stations will be able to keep day and night watch over the cold Polar sky. At the same time, radar stations along the Mid-Canada and Pine Tree Lines, thousands of miles further south, scan the skyway approaches to U. S. and Canadian homes.

Design experience pays off. Le Roi has been building heavy-duty engines for more than 40 years and applying them to portable compressors. Today's Le Roi compressor with its matched engine and compressor-unit, all built by the same manufacturer, is the significant result of many years of engineering research and development work by Le Roi engineers and field technicians. That's why you find these machines on the DEW Line — and that's why you find them delivering many years of dependable service to contractors and other equipment users in everyday construction work.

G-577

LE ROI Division of Westinghouse Air Brake Co., Milwaukee 1, Wisconsin, manufacturers of Cleveland air tools, Tractair, portable and stationary air compressors, and heavy-duty industrial engines. Write us for information on any of these products.

Skagit Yarder-Loader, familiar sight around Northwest logging operations, moves ponderous logs with ease and agility because of rugged yet light-weight boom of Mayari R.

"Materials-handling" in the great North woods

In the sprawling timberlands of the Pacific Northwest they fell the raw materials for lumber, plywood, pulp and matches. Pulling the giant logs to a landing and loading them on big trucks is the job of mobile loggers designed and built by Skagit Steel and Iron Works in Sedro Woolley, Washington.

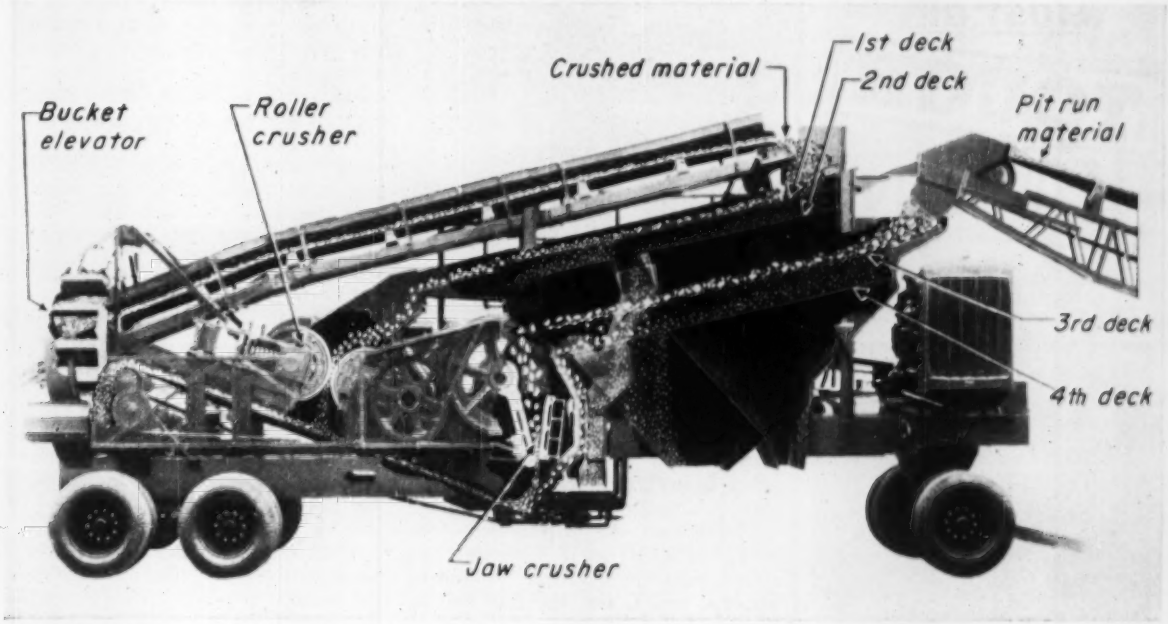
The logs are heavy and the going's rough, so these mobile loggers must be rugged yet highly maneuverable. To cut down unnecessary weight, Skagit builds the lifting booms from angles and channels of Mayari R low-alloy, high-strength steel. Because Mayari R has a substantially higher yield point than carbon steel, an amply strong boom can be built with lighter members. Skagit shop men find that they can weld Mayari R as readily as regular carbon steels, with the same general procedures. And Mayari R has from 5 to 6 times greater resistance to atmospheric corrosion, a distinct advantage under damp forest conditions.

All the significant properties of Mayari R, along with dozens of case histories and application photographs, are interestingly set forth in Catalog 353. If you would like to have a copy just get in touch with the Bethlehem district sales office nearest you.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corp. *Export Distributor:* Bethlehem Steel Export Corp.

Mayari R ... High-Strength, Corrosion-Resisting Steel

BETHLEHEM STEEL



PORTABLE GRAVEL PLANT uses preliminary scalping to reduce material bottlenecks at the crushers.

Four Sizes of Aggregate Produced at One Time

A new series of portable duplex-type gravel plants has been designed to combine greater flexibility and mobility with higher capacities and increased efficiency.

Designated as the 44 and 45 series, the plants all have a 4 x 12-ft four-deck vibrating screen which, through a flexible screening and spouting arrangement, allows rapid and simultaneous production of from one to four sizes of closely graded material.

The key to the plant's efficiency is said to lie in the availability of full deck scalping ahead of the primary crusher. This permits removal immediately after feeding and before crushing of any materials which are delivered at or smaller than specification size. The amount of double separation needed to obtain the desired size is reduced thereby. As an additional feature, the chute and hopper arrangement is said to simplify the blending or separate removal of crushed materials. It is also pointed out by the manufacturer that proper balance between the crushing loads carried by the jaw and the roll crushers can be simply and quickly maintained to allow each to work at maximum efficiency. Setting of the jaw can be adjusted when the plant is running, while adjustment of the rolls is by means of a simple hydraulic jack and shim arrangement.

Both the 44 and 45 series models use the same jaw crusher; the principal difference between them is the roll crusher size. Overall lengths of standard 44 and 45 series plants are 32 ft 3 in. and 29 ft 10 in., respectively. Traveling width is 9 ft 6 in. and height, 13 ft. Total weight of the units is about 60,000 lb, which keeps the rear equalizer loadings to 34,000 lb. Both series are available with either electric or diesel power plants mounted as component parts of the unit.

As shown in the cutaway illustration above, pit run material is fed by a 30-in. conveyor directly to the third deck of the vibrating screen. The first 9 ft of this deck is equipped with specification size mesh that permits properly sized material and sand to pass through to the bottom of the fourth deck. There, with volume controlled by split dampers, the sand is screened out and dropped to the first compartment of the hopper, where an 18-in. conveyor carries it out the side to truck, bin, or stockpile.

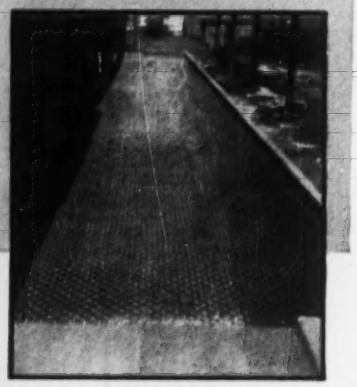
Specification size material retained on the bottom deck drops through a 6-in. opening at the end of the sand screen into the second compartment of the hopper. The oversized material retained by the initial 9 ft of the third deck passes to a 3 ft 6 in. scalping section on that deck. Rocks retained on the scalping section are chuted to the jaw crusher for reduction, while material passing through drops on the last 3 ft of the fourth deck, which is also specification size mesh. Any properly sized material not picked up in the initial screening is now dropped to the second hopper, while the oversized materials are chuted directly to the conveyor under the crushers, thereby missing the jaw crusher.

The jaw crusher product from the third deck and the by-passed material from the fourth deck are routed to the top screen by means of a 24-in. return conveyor system and a 72 in. x 22 in. revolving bucket wheel. The full length of the top deck is equipped with specification sized mesh. Material passing through this mesh drops to the second, or carry, deck where troughs chute it into two spouts, one on each side of the screen.

Oversized materials retained by the top deck are chuted to the roll crusher and, after passing through it, are returned by the conveyor and bucket wheel systems to the top deck for reprocessing. Specification size product is removed from the hopper by the 30-in. delivery conveyor. PIONEER ENGINEERING WORKS, INC., 3200 COMO AVE., MINNEAPOLIS 14, MINN.

(*New Products continued on page 47*)

LOADING PLATFORMS MUST BE TOUGH CLEAN DRY



The impact of heavy objects can quickly ruin loading platforms and develop hazardous and inefficient working surfaces.

A loading platform made of steel mesh grating cannot splinter like wood or crack and chip like concrete. Steel bars on edge take the impact and the severe abuse. Irving Grating Platforms can not collect snow, water or spilled liquids. They are durable and safe, easy to install and maintenance free.

Manufacturers of Riveted, Pressure-Locked, Welded Gratings in Steel, Aluminum and other metals.

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Compressed-Air Machine Can Handle Several Jobs

With a multipurpose compressed-air machine just introduced, walls and other surfaces can be stuccoed, sandblasted, solvent-cleaned or chiseled.

The primary design purpose of the apparatus is to spray Colorcrete (a cementitious mixture for renovating masonry walls), but the dual mixing tanks and discharge equipment also can handle sand, stucco or cleaning solvent; or the compressor can be used to power an air chisel.

The material to be applied is forced through a hose from the mixing tanks to the discharge nozzle. There, it is mixed with compressed air from another hose and sprayed. Air pressure can be regulated.

Main elements of the unit—mixing tanks, compressor, blower, gasoline engine and starting battery—are mounted on a steel-decked trailer. The trailer has pneumatic-tired wheels, integral hitch and adjustable back leg. Colorcrete Industries, Inc., 323 Ottawa Ave., Holland, Mich.

Lightweight Venturi Tube Made of Stainless Steel

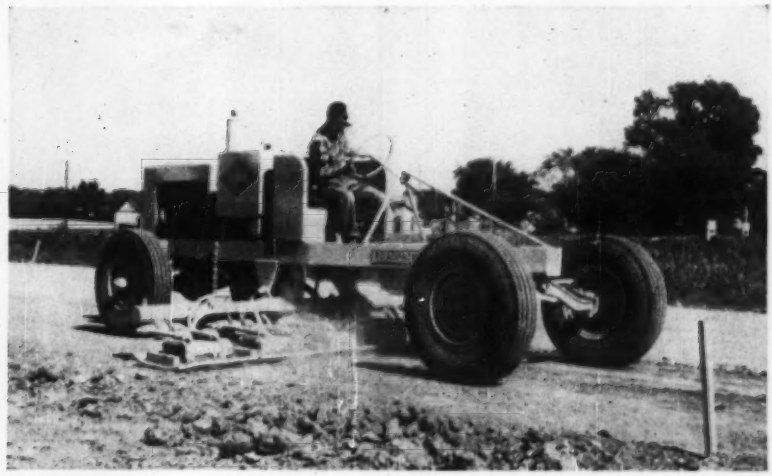
Stainless steel, instead of steel or cast-iron, is used in a lightweight venturi tube for measuring liquid and gas fluids. The inner, formed section is of stainless steel and the surrounding and supporting pipe section may be of carbon or stainless clad steel pipe.

With the proper devices, the manufacturer states, the tube may be used for sewage or sludge, and is readily adaptable for a variety of end fittings. Penn Instruments Div., Burgess-Manning Co., 4110 Haverford Ave., Philadelphia 4, Pa.

King-Sized Batch Plant Is Portable

A portable concrete batching plant said by the manufacturer to be the largest such installation available has been announced by L. Burmeister Co.

Because no field wiring or plumbing is necessary and there are no pits to dig, the Porto-Plant can be put in operation within hours after its arrival and deliver more than 100 cu yd per hr, according to the company. Physical components of the plant include a hinged aggregate bin complete with batchers and scales in position for over-the-road hauling; a portable belt conveyor on wheels, and a portable Weigh-Meister batching unit. When set up, the unit is said to require attention of only one man who through a centrally located panel operates every action with push-buttons. L. Burmeister Co., Milwaukee, Wis.

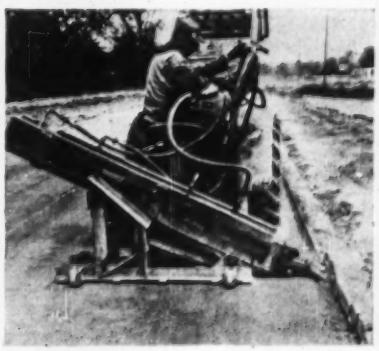


Road Compactor Works Variable Widths

The Lima Works of the Baldwin-Lima-Hamilton Corp. has gone into production on a newly developed unit tradenamed "Lima Roadpacker," designed as a compacting tool to prepare base for road paving.

The design, drawings, patents and right to manufacture were purchased from the Roadequip Mfg. Co.

The self-propelled machine is equipped with six hydraulically driven, 420-lb shoes which provide a tamping and vibrating action on macadam bases, gravel sub-bases and soil-cement bases. Advantages claimed include flexibility and maneuverability, a travel speed of 30 mph and sealed moving parts which result in low maintenance. According to the manufacturer's specifications, the working width of the six shoes covers an area of 13 ft 1 in. For narrower areas, the end shoes can be folded up out of the way. BALDWIN-LIMA-HAMILTON CORP., LIMA, OHIO.



Portable Pile Hammer

Vulcan Iron Works has announced a new mobile portable differential-acting pile-driving hammer, the DGH-100.

The manufacturer says that the hammer is fully automatic in operation, small enough to carry in a jeep but operates with compressed air or steam. Machine is just over 4 ft long, delivers a rated striking energy of 386 ft lb, and weighs 786 lb.

The machine above is breaking concrete curbing. Vulcan Iron Works, Inc., 327 N. Bell Ave., Chicago, Ill.

Electronic Preset Counter For 5,000 Counts Per Second

An electronic counter has been designed for applications requiring from 0 to 5,000 counts per second without necessitating any special adjustment or circuit changes.

The counter will operate with photoelectric, semi-conductor, magnetic or contact making pickups.

At the end of the warning and final count, plug-in relays are energized for control purposes. The warning circuits can be used to slow down the process to insure accurate control or to provide notice that the preset number is about to be reached. After reaching the end of count, the counter can be reset to zero either manually or automatically, either immediately or after an adjustable time delay.

The unit is housed in a dust-tight, oil-tight (NEMA 12) enclosure. When a change in setting is required, the enclosure can be opened with safety since the unit is dead front with the door open. MACHINERY ELECTRIFICATION, INC., NORTHBORO, MASS.

(*New Products continued on page 50*)

Waterstop
in place
in seconds!

LABYRINTH WATERSTOP after first pour has been made and form removed. The grooves receive the concrete from the second pour, providing an interlocking joint.

Just a few seconds were needed to nail this LABYRINTH WATERSTOP to the form... just a few seconds and water seepage worries were over before they could ever have a chance to start.

LABYRINTH WATERSTOP forms a waterproof bond between two pours. The corrugated ribs bond firmly with the concrete.

LABYRINTH WATERSTOPS are made of flexible polyvinyl plastic... that has superior weathering qualities, is not affected by temperature changes and chemical activity.

LABYRINTH WATERSTOPS are easy to work with, can be cut to any desired length. "L" and "T" joints can be welded with just a hot knife. Find out now how your costs can be cut... and end your seepage problems. Just mail the coupon to:

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Send full information and sample

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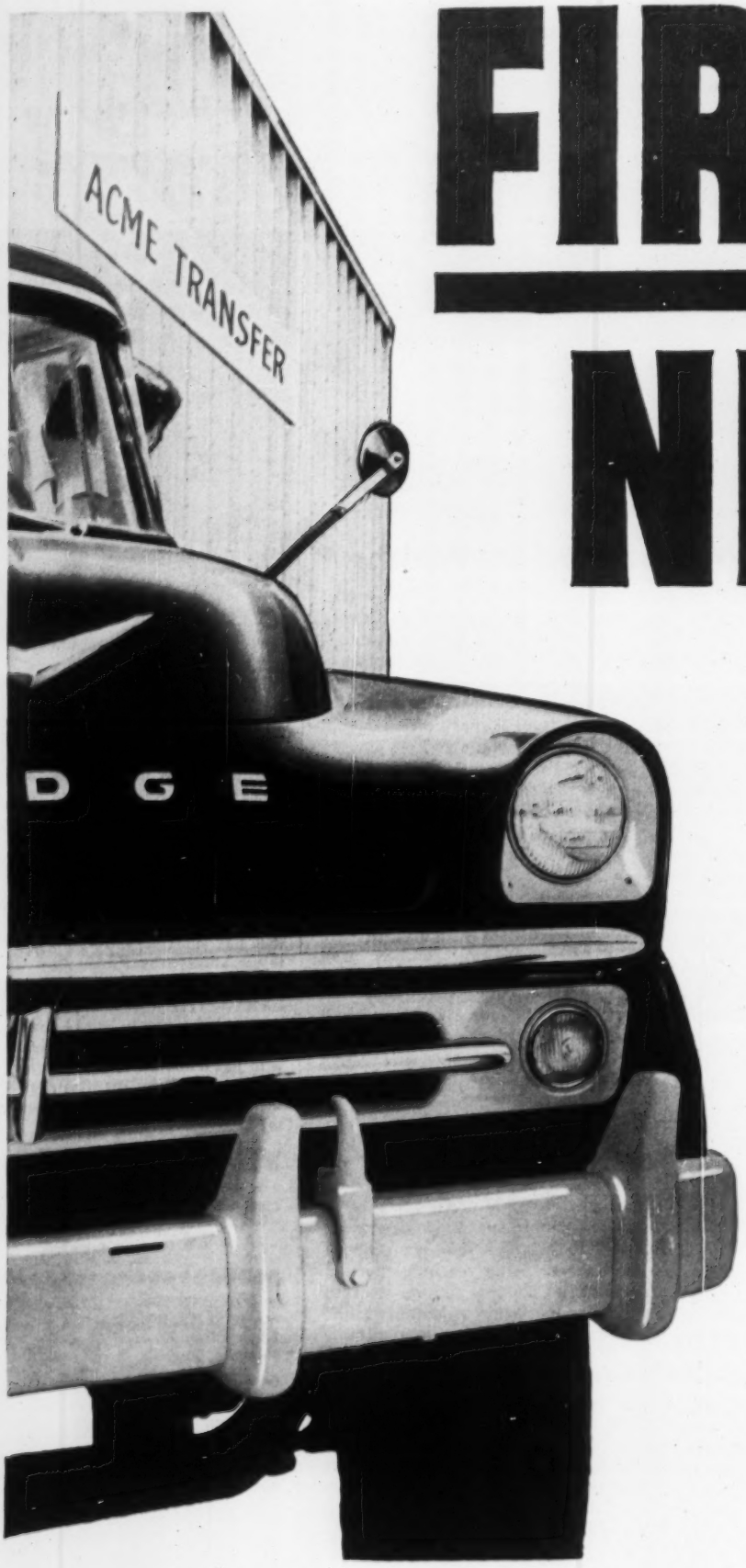
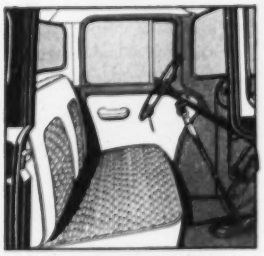
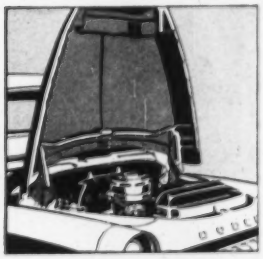
FIRST NEW





NEW COMFORT CABS

Industry's largest, for real stretch-out comfort. All-new seat design permits adjustment of back cushion and seat height, plus normal slide positioning.



FULL-OPENING HOOD

Exclusive!—Can be raised full 90° for easiest, fastest engine servicing, half-way for routine oil and water checks.

Stake models up to 21,000 lbs. G.V.W.

SHOWING

DODGE

PowerGiants

- **NEW giant-power V-8 engines!**
- **NEW push-button driving!**
- **NEW higher load capacities!**
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Get set to profit from a great *new* kind of truck—with *more* V-8 power and *more* payload capacity—with *more* eager-to-go snap than any other make on the road!

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New short-stroke Chrysler-engineered V-8's—with exclusive Power-Dome combustion—give you more miles per gallon, full power on *regular* gas. Increased power in famous, dependable Dodge 6's, too.

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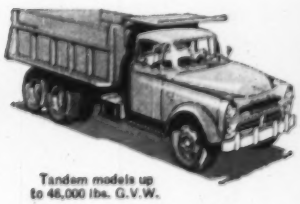
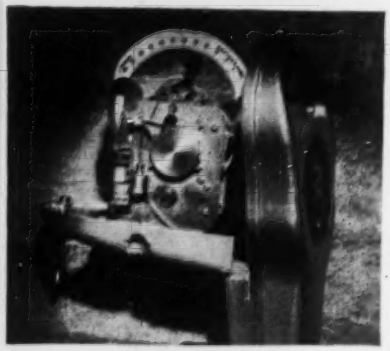


Tandem models up to 46,000 lbs. G.V.W.

Tractor models up to 65,000 lbs. G.C.W.

4-wheel-drive models up to 18,000 lbs. G.V.W.



Photocell-Equipped Meter Cancels Unused Parking Time

San Francisco—nettled by motorists who take advantage of unexpired time on parking meters and who cruise areas in search of vacant metered spaces where unexpired time still remains—is trying out a new device that automatically removes unused time.

Fifty of the units have been installed on a two-block strip and the city is checking meter revenue and traffic flow in the area for several weeks to determine results.

The meter works on a photoelectric cell installed in the pavement at the center of the parking space. When a car leaves the space the mechanism in the head of the meter automatically erases the unused time. Manufacturer is the newly formed Traffic Master Co., 54 Washburn St., San Francisco, Calif.

Rubber Facing Is Featured On Sewage Plant Plug Valve

A new plug type valve for sewage treatment plant application has been introduced. It features a plug facing of Hycar American rubber (B. F. Goodrich Chemical Co.).

An eccentric action of the valve swings the plug back and away from the seat to open wide with no friction from the plug itself.

Closing the valve wedges an eccentrically shaped plug against an eccentrically raised seat, sealing tightly despite intervening solids.

The facing is said to have the rigidity to close tightly, yet retains the surface resiliency to seal around solids which may lodge on the valve seat. Excellent resistance to abrasion and chemical action are also claimed for the material. Dezurik Shower Co., Sartell, Minn.

Reinforced Plastic Gutters Won't Rust, Need No Paint

The same plastic and glass fiber combination that has been used for automobile bodies, boat hulls and skylights now appears in the form of rain gutters.

A lifetime product, according to the manufacturer, the glass-reinforced polyester needs no painting; won't rust, stain or fade; isn't harmed by freezing or torrid weather, and won't dent under leaning ladders and other rough treatment.

Slip-joint elbows, one-piece molded corners and snap-fit downspouts simplify installation.

Downspout sections can be taken apart and reassembled— a handy feature in case of clogging.

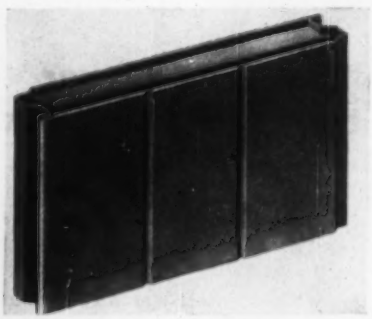
Standard colors are white and copper, but other colors are available on special order. Resin bonding materials for gutter joints are supplied with the gutters. Permanent Products, Inc., 102 W. Fairfield, St. Paul, Minn.

Rigid Plastic Pipe Now Comes in All Standard Sizes

Rigid Polyvinyl-chloride pipe is now available in all standard pipe sizes from ¼ in. to 6 in. The pipe has been approved by the National Sanitation Foundation for use with drinking water.

Along with being corrosion proof, it is said to be immune to electrolytic attack in any soil. These properties also make Easton's electrical-plastic tubing desirable for protection of telephone and electrical wiring.

The pipe and tubing are claimed to be lightweight and impervious to freezing temperatures. It can be sawed, threaded, welded, cemented, machined and formed with conventional equipment. Easton Plastics Products Co., Inc., Easton, Pa.

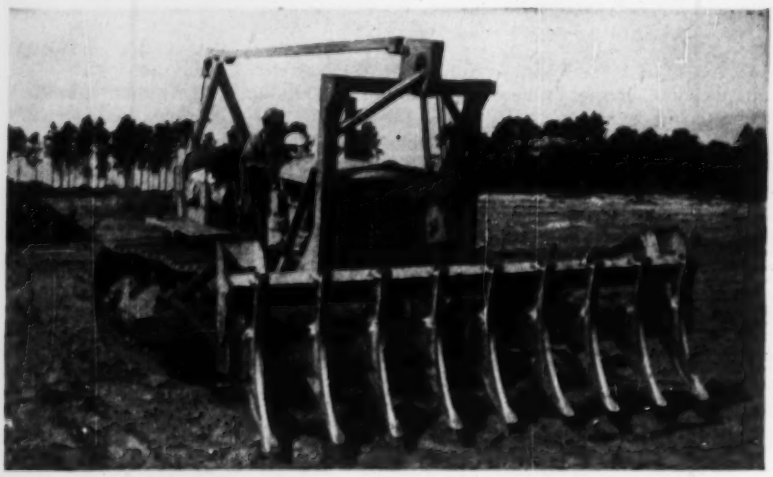


Fenestra Adds 24-In. Panel And Drops Its 16-In. Width

Fenestra will substitute a 24-in. panel for the 16-in. width in its line of prefabricated wall panels.

These panels are sandwich type, with metal facings and an insulating core. Either galvanized steel or grained aluminum facings are obtainable. The filler is 2-lb density glass fiber.

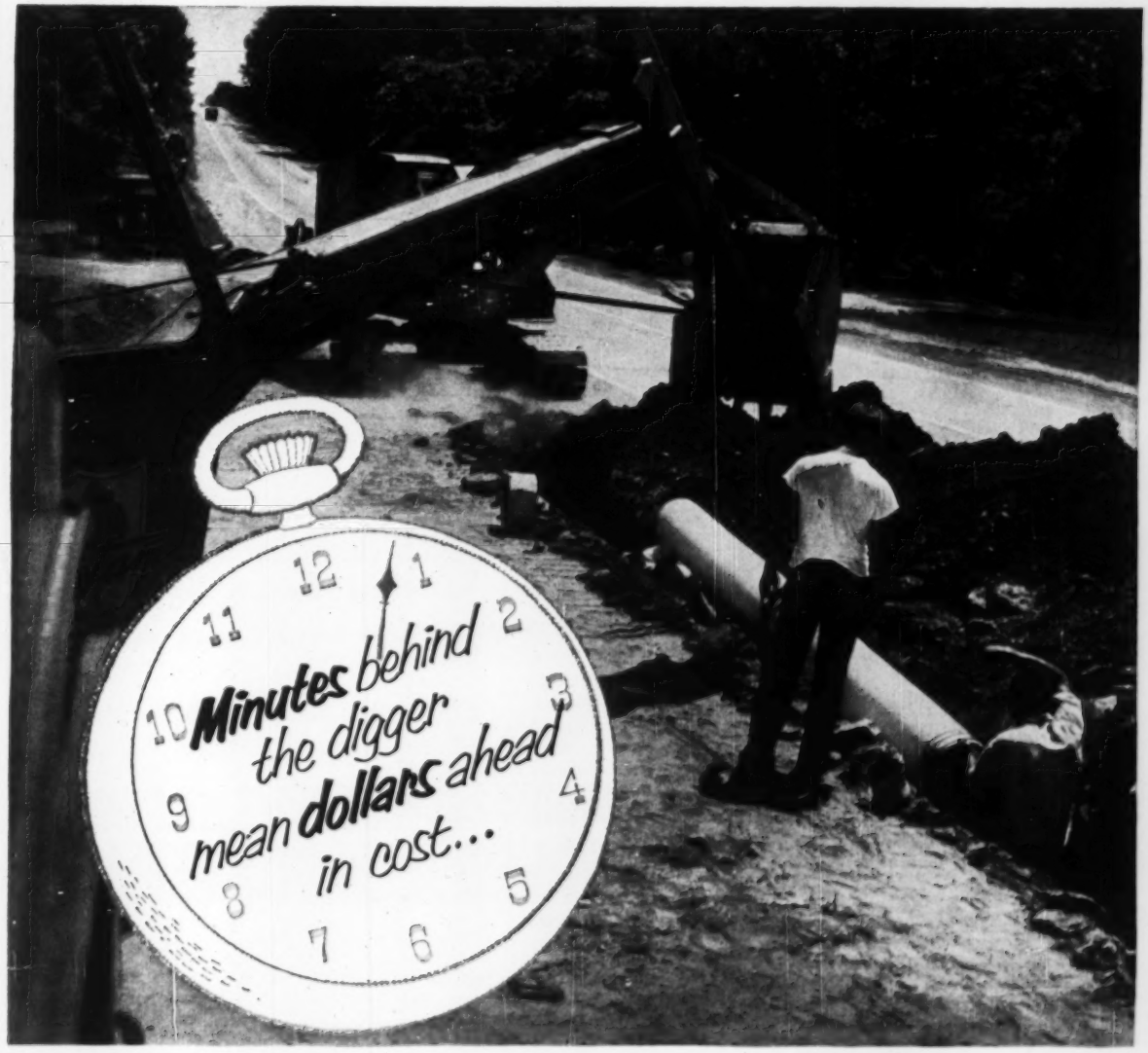
Thermal and acoustic properties are: heat transmission in Btu/hr-deg F-sq ft, 0.16 to 0.19, depending on the facing metal; sound transmission loss, 41 db; sound absorption (when facings are perforated), 90%. Panel thickness is 3 in. Lengths vary from 6 ft to 14 ft. Detroit Steel Products Co., 11345 Mound, Detroit, Mich.



Brush and Root Rake Is Light, Rugged

A brush-and-root rake, designed for clearing and piling of brush and small trees is now available for use with Allis-Chalmers, International Harvester, Oliver and Terratrac tractors.

Called the Rockland BRR rake, the equipment is attached in lieu of the bulldozer blade front of almost any crawler-type tractor. Rockland Allied Equipment Co., 3778 W. Colonial Dr., Orlando, Fla.



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WITH THE NEW RING-TITE COUPLING

FRANCIS V. DU PONT (center) with Ford Bartlett (left) and Eugene Macdonald join forces to push use of modern design tools, particularly computers, by civil engineers.

Du Pont Joins with Consulting Firms

Concerned with the necessity of civil engineers using more modern tools for design, former Commissioner of Public Roads Francis V. du Pont has become associated with the engineering firms of Parsons, Brinckerhoff, Hall & Macdonald, Inc., New York City, and Lockwood, Kessler & Bartlett, Inc., Syosset, N. Y., as a consultant and member of the board of directors.

Du Pont's chief effort with both firms is to stimulate and guide the employment of electronic computers, aerial photogrammetry, precision plotting instruments and other devices in all phases of engineering design. At present, he and the two firms are engaged in completing the marriage between photogrammetry and computers in connection with highway design to offer a complete service on a highly mechanized basis from route surveying through final drawings. PBHM and LKB plan to associate as a joint venture in consulting work of this type.

Although highway work is the immediate concern, du Pont forsees an even bigger opportunity for modern design tools in the structural field where yearly volume of work far surpasses that of even the expanded highway program. The chief tool in mind is the electronic computer.

Members of both firms are already at work refining some of the existing computer programs for earthwork quantities.

Eugene Macdonald and Ford Bartlett, chairmen of their respective companies, along with du Pont, are quite optimistic over the role private consultants have to play in the use of modern design tools, particularly electronic computers.

Nutter to Be Chief Engineer For Oakland Port Authority

Ben E. Nutter, Superintendent of Public Works for the Territory of Hawaii, will become chief engineer of the Port of Oakand, California, on January 1.

The current expansion of Metropolitan Oakland International Airport, the present port construction program and the planned future industrial expansion of the port require the full-time augmentation of the authority's engineering staff.

J. G. Bastow, assistant general manager who has doubled as chief engineer, now concentrates on his primary duties.

During and after World War II, Nutter served with the Army Corps of Engineers in Honolulu as materials engineer and in military airfield and fortification construction, flood control and harbor development. He was appointed to his present post in 1953.

As superintendent of public works, he is the engineering and construction head of the Hawaii Aeronautics Commission and ex-officio chairman of the Board of Harbor Commissioners.

NSPE Nominations

Eight officers named for term starting July, 1957

Garvin H. Dyer has been nominated for president of the National Society of Professional Engineers. He is director of the Missouri Water Co. and manager and chief engineer of the Independence Division of the firm.

A past president of the Missouri Society of Professional Engineers, Dyer also has served on that society's board of directors.

He currently is serving his second term as vice president of the North Central region of the national society. A former NSPE national director, he has been supervising the professional practice group of committees.

Dyer has been president of the Mid-Missouri Section of the American Society of Civil Engineers, and a chairman of both the Missouri Section of the American Water Works Association and the Missouri Water and Sewerage Conference.

Six regional vice presidents for the NSPE administrative year, which begins in July, 1957, also were nominated including:

A. H. Kidder, Philadelphia, northeastern region; John B. McGaughy, Norfolk, Va., Southeast; Harry G. Kennedy, Charleston, W. Va., Central; W. L. Hindermann, St. Paul, North Central; Calrk A. Dunn, Stillwater, Okla., Southwest, and L. R. Durkee, Seattle, West.

Russell B. Allen, College Park, Md., was nominated for the office of treasurer of the national engineering society.

(*Men and Jobs continued on page 54*)

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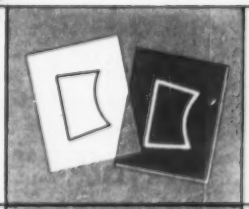

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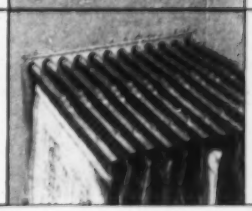

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Capt. Albert J. Fay

Rear Adm. Martin W. Kehart

BuDock Changes

Capt. Albert J. Fay, soon to assume the rank of rear admiral, has reported for duty as the new deputy chief of the Navy's Bureau of Yards and Docks. He leaves the post of commander of Naval Construction Battalions (Seabees) in the Atlantic.

A graduate of the Naval Academy, Captain Fay received his Master of Civil Engineering degree from Rensselaer Polytechnic Institute. He spent most of World War II in the Pacific theater as head of a number of construction operations.

In another change, Rear Adm. Martin W. Kehart has been appointed director of the Atlantic Division of BuDocks. He comes to his new job from Hawaii, where he was district civil engineer and district public works officer for the Fourteenth Naval District.

Admiral Kehart, a graduate of the University of Illinois, now will be responsible for all Navy construction in the Atlantic area, including the Caribbean, Bermuda, Newfoundland and Iceland. Among previous duties, he served in Washington as acting chief inspector of BuDocks, and as assistant chief of bureau for construction operations. His new headquarters will be at 90 Church St., New York City.

ASCE Announces Award Of 1956 Research Prizes

The 1956 Research Prizes, an annual award by the American Society of Civil Engineers, have been awarded to Fred Burggraf, associate director of the Highway Research Board in Washington, D.C.; Prof. Chester P. Siess of the University of Illinois; and Vinton W. Bacon, executive officer of the California State Water Pollution Control Board.

Burggraf received his citation "in recognition of outstanding contributions to knowledge through the administration of research in highway engineering and construction materials."

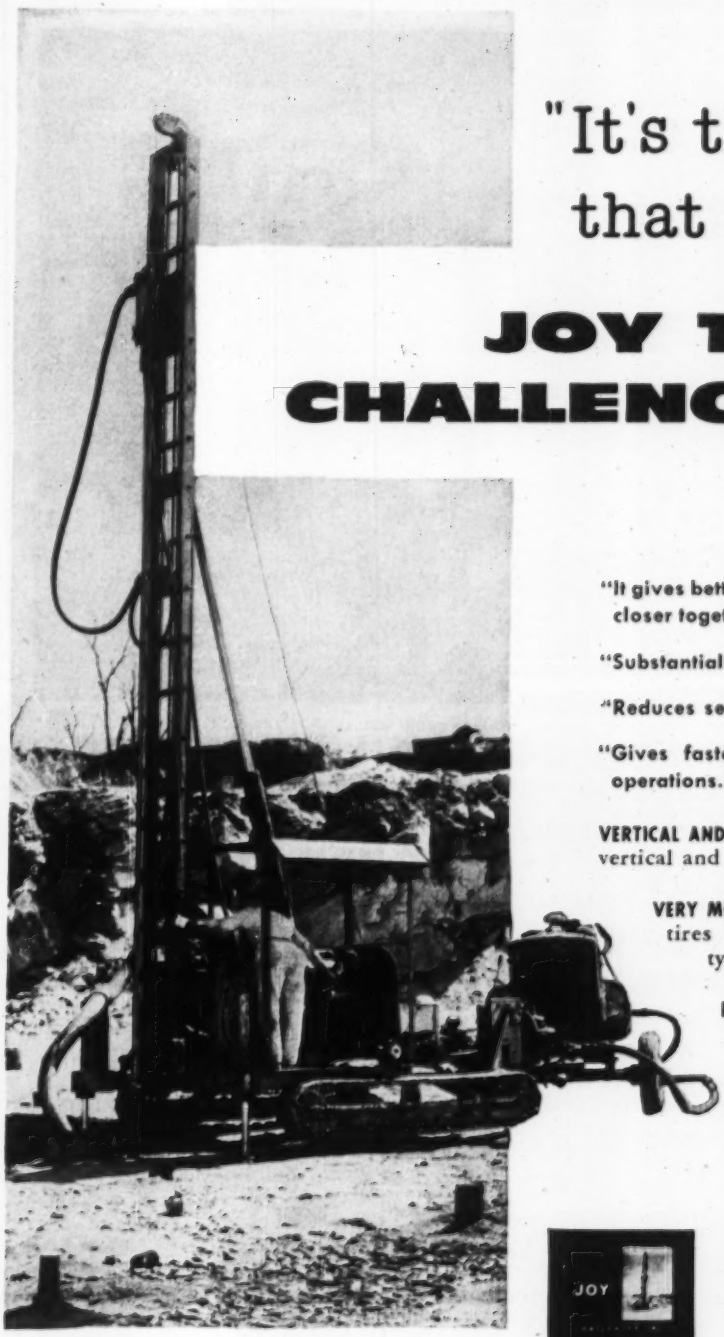
Prof. Siess was named "in recognition of outstanding contributions to knowledge through his research on reinforced concrete slabs." The award to Bacon was "in recognition of achievements in applied research on waste water reclamation, pollution and water quality."

Krug Heads Technical Team On Pakistan Water Mission

Julius A. Krug, former U. S. Secretary of the Interior, has left for Pakistan on a United Nations mission. He will lead a UN technical assistance administration team of experts to advise the government of Pakistan on a broad program of flood control and water utilization.

The program will deal especially with the Brahmaputra-Ganges basin in East Pakistan, where the government is seeking to control annual flood losses and promote long-range development touching on irrigation, drainage and power.

Krug is accompanied by Walton Seymour, a consultant on the economic and management aspects of water use and development. Both experts have held top positions in the Tennessee Valley Authority. Seymour, director of the program staff of the Interior Department when it was headed by Krug, has been serving as a consultant to the Puerto Rican Water Resources Authority.



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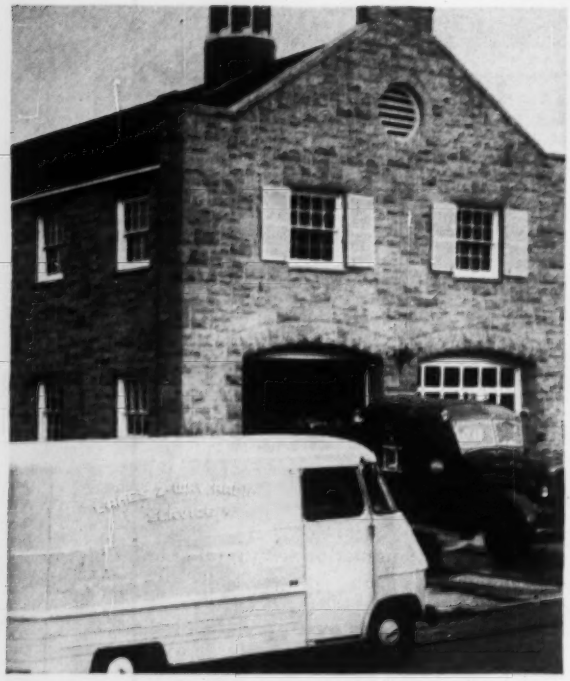

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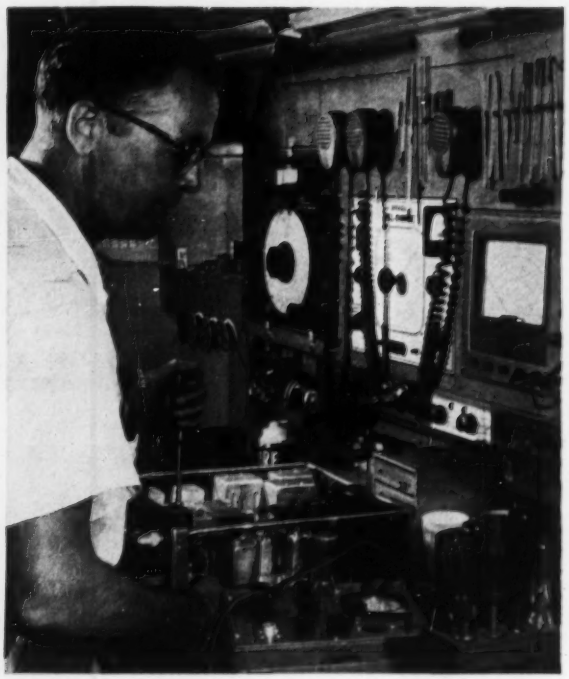

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Obituaries

Building Contractor Leaves $11 Million to Universities

Louis J. Horowitz, former president and chairman of the board of Thompson-Starrett Co., Inc., New York City building firm, died Dec. 2 in Palm Beach, Fla., at the age of 81. His attorney announced that part of the estate, estimated at $9 million, was bequeathed to New York University, and the principal funds of a foundation established by Horowitz, totaling more than $1.6 million, will go to several other universities.

Horowitz retired as chief executive of Thompson-Starrett in 1934 after 31 years with the concern. During that period, the firm had constructed the New York City Municipal Building, the Woolworth Building—once the tallest building in the world—the Gimbels Bros. department store and the Equitable Life Assurance Society office building, all in New York City.

Horowitz achieved his success as a general contractor without the benefits of a formal college education. Born in Russia, he came to the U.S. in 1891. From 1896 until 1902, he was engaged in the real estate business. He joined Thompson-Starrett in 1903, became vice president and general manager in 1905 and president in 1910.

His will provides that the income from the $9-million bequest be used by the Institute of Physical Medicine and Rehabilitation of the New York University-Bellevue Medical Center. Also, the Louis J. and Mary E. Horowitz Foundation, it was reported, will be liquidated and the principal funds distributed to institutions that had benefited from it since its inception in 1922. The foundation had supported building construction courses at such universities as Yale, Massachusetts Institute of Technology and Union College.

Moro M. Borden, 79, engineering consultant of Simplex Valve and Meter Co., died in Collingswood, N. J., Nov. 16. Borden, who held a number of patents on flow and control devices, started his career with American Pipe and Construction Co. in 1902 and joined Simplex at its formation in 1905 as chief engineer. He served the company as general manager from 1914 to 1938, then as vice president in charge of engineering, and finally as engineering consultant for the last 10 years.

William Powell, 72, general superintendent of C. W. Blakeslee & Sons, Inc., New Haven, died Nov. 19. Powell has been associated with Blakeslee for 51 years. Although he lacked formal engineering training, in 1955 he was awarded a life membership in the Connecticut Society of Professional Engineers—an honor bestowed annually on the outstanding engineer of the year in the state. Jobs supervised by Powell include the railroad lift bridge over New Haven's Buzzards Bay, Cornwall Bridge at Cornwall, and the Yellow Mill Bridge in Bridgeport.

Archibald M. Brown, 75, member of the New York architectural firm of Brown, Lawson & Forbes, died Nov. 29 in New York. His early work included the Brooklyn Children's Museum and the president's house at Dartmouth College. More recently, he designed the Chelsea, Elliott and Harlem River Houses, three public housing projects in New York. He was educated at Groton School, Harvard University and the Ecole des Beaux Arts in Paris. Early in his career he was associated with the firm of Peabody, Wolfson & Brown.

John E. Downes, 84, founder of a firm now known as the Frank E. Downes Construction Co., Inc., died in New Britain, Conn., Nov. 8. Downes, who entered construction work in 1902, erected many industrial and school buildings in the central Connecticut area. For 28 years he was supervisor of construction for New Britain's public school system. He also directed erection of the city's housing projects.

Andrew H. Holt, 66, engineering educator, died near Montpelier, Vt., Nov. 22. Holt, who graduated from the University of Vermont in 1912, served as a professor of civil engineering at the University of Vermont and Iowa State University, and as head of civil engineering at Worcester Polytech.

Carrol J. Gore, 49, a civil engineer in the Yonkers, N. Y., City Engineering Bureau, died Nov. 18 in Yonkers. He was a graduate of Manhattan College and had served as president of Yonkers Civil Service Employes Association.

David E. Watson, 65, member of the Pennsylvania Turnpike Commission, died recently in Philadelphia. His term with the commission ran until 1962.

Roy H. Beard, 56, North Carolina Highway Department supervisor for Granville County, died Dec. 2. Previously, he had worked with the department in Harnett, Vance, Wake and Person Counties.

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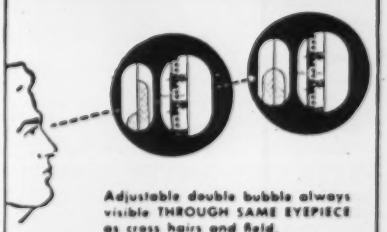

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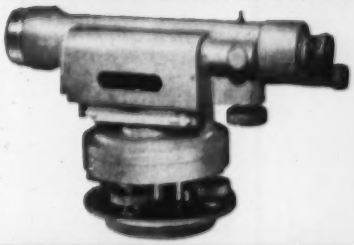

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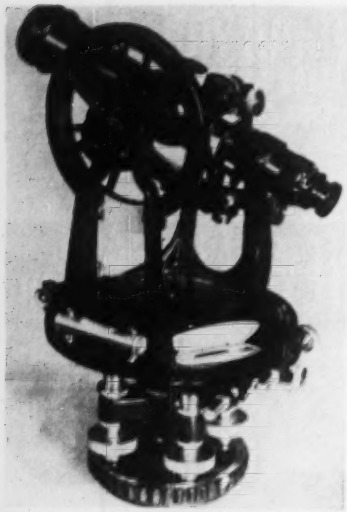

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Books

Waste Disposal Classic

DISPOSAL OF SEWAGE AND OTHER WATER-BORNE WASTES—By Karl Imhoff, W. J. Muller and D. K. B. Thistlethwayte, 347 pp. Butterworths Scientific Publications, London, 45s ($6.30)

The 80-year-old German master, Karl Imhoff, has summarized in relatively simple forms the present status of waste disposal, drawing upon sources all over the world. As such, and particularly in view of the large number of computative examples, his book should be well received by students, practitioners and those experts desiring the perspective of one of the world's great sanitary engineers.

The present publication is a translation of the 16th edition of Imhoff's *Taschenbuch der Stadtenwasserung* by Messrs. Muller and Thistlethwayte, the former an associate of Imhoff during his years with the Ruhr River Authority in the 1920's and 1930's. Beginning in 1906, and about every three years thereafter, Imhoff undertook to summarize world progress in sewage treatment in *Taschenbuch*. In 1940, Harvard Professor Gordon Fair translated and supplemented the 8th edition, which was published as *Sewage Treatment* by Imhoff and Fair.

The current translators, in an effort to make the book more suitable for use in the British Commonwealth and the U. S., have devoted the preponderance of space to methods of sewage treatment. Each chapter dovetails the very latest practices with that of significance from the past to give an effective and penetrating total picture. For example, in the section on activated sludge treatment, recent advances in step aeration, high-rate aeration and two-stage, or "activated aeration", are all covered.

While the Imhoff book in itself provides the perspective summary, its more than 600 references comprise a most comprehensive bibliography of great use to the profession.

Aluminum Design Handbook

ALUMINUM IN MODERN ARCHITECTURE—Vol. 1, by John Peter, 255 pp. $10. Vol. 2, by Paul Weidlinger, 403 pp. $17.50. Reinhold Publishing Corp., New York, N. Y. Two volumes, $25.

In sponsoring these two volumes, at a reported cost of over $500,000, Reynolds Metals Co. has performed a valuable service for the construction industry. For this handbook satisfies a long-felt need for collection in one source of widely scattered data on aluminum.

Vol. 1 consists principally of photographs of 101 structures in which aluminum has been used. It contains very little text. Most of the structures illustrated indicate imaginative thinking on the part of the designers. Also, this volume presents opinions of several outstanding architects and engineers on the future of aluminum in architecture.

Vol. 2 offers a wide variety of data on aluminum — mining, processing, physical and mechanical properties, fabrication, joint and connection details, structural design formulas, architectural details and information on piping, ductwork and insulation. It should make design of future aluminum structures easier.

Miscellaneous Notes . . .

• **Private atomic power**—The U. S. Chamber of Commerce has gotten out an 8-page mimeographed presentation setting forth its reasons why private industry should assume the major role in nuclear power plant development. It explains in a sober manner why development of commercial electric power from atomic energy has not been, and need not be, accomplished on a crash basis and then goes into the major obstacle to private development—provision of third party liability insurance. The Chamber calls for the federal government to provide indemnity beyond what private insurance sources can make available, which in this case means the government would provide most of the coverage.

• **Water symposium**—A collection of papers delivered at the Fifth Annual Water Symposium at Louisiana State University have been assembled in a 116-page pamphlet. The theme this year was water pollution. Papers included deal with, among others, artificial rainmaking, a large corporation's plant water system, pollution abatement measures in a number of industries and pollution problems in tidal estuaries, water resources of the South. Copies may be had from the College of Engineering, Louisiana State University and Agricultural and Mechanical College, Baton Rouge 3, La., for $1.75.

Fluoridation bibliography—The Municipal Reference Library of the Detroit Public Library has compiled a bibliography on the subject of fluoridation, including its engineering aspects. A limited number are available free. Direct requests to the library at 1006 City-County Building, Detroit 26, Mich.

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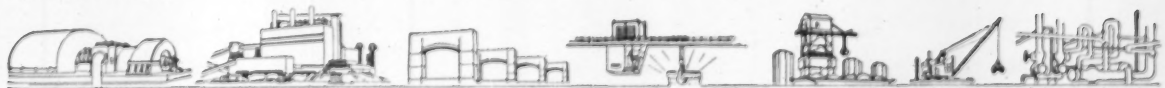

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Unit Prices

Four-Lane Bituminous Highway in New Mexico

The contractor for this $1.3 million highway has to handle considerable rock excavation while maintaining traffic through the site. This 5.144-mile stretch for the New Mexico State Highway Department in Santa Fe is one of the first contracts under new Interstate Highway design criteria. It is on U. S. Highway No. 66, 10.5 miles west of Thoreau-West in McKinley County. Lee Richards, Continental Divide, N. M., is consulting engineer for the department.

Henry Thygesen & Co. of Albuquerque, N. M., took the $1,278,203 contract at 0.7% below the second low bid and 22.5% below the engineer's estimate which tops all four bids received on this bargain contract.

Work includes grading, drainage structures and hot plant-mix bituminous pavement placed on a base course of crushed rock with maximum sizes of 2 in. and 1 in. in diameter. The contract also covers steel plate and barbed wire fences, cattle guards and the removal of old structures and obstructions.

Class A concrete is specified for a cement content of 6 bags per cu yd at a maximum water content of 6 gallons, 2-in. to 4-in. slump if vibrated or 3 in. to 5 in. for regular placement. Concrete must test at 3,000 lb per sq in. after 28 days.

The four bidders include:

1C	Henry Thygesen & Co., Albuquerque, N. M.	$1,279,203
2	Skousen-Hise, Contracting Co., Albuquerque, N. M.	1,288,265
4	Brown Contr. Co., Albuquerque, N. M.	1,471,907
EE	Lee Richards, Continental Divide	1,649,187

Bids: 10-26-56 Items	Unit	Quantity	Unit Prices 1C	2
Remove old structs	ls	job	$8,000	$21,000
obstructions	ls	job	1,000	1,000
Clearing & grubbing	ls	job	4,000	12,500
Excavation, uncl	cy	387,775	0.52	0.50
for structs	cy	7,150	1.50	3.00
for pipe culverts	cy	1,165	2.00	2.00
Ordinary borrow	cy	85,930	0.25	0.25
Watering	Mgl	23,780	1.50	0.75
Rolling, tamping roller	hr	540	10.00	12.00
pneumatic tired	hr	1,550	4.50	2.50
steel tired	hr	1,160	7.00	3.50
Roller operation, 50-t	hr	2,230	14.00	5.00
Tamping, mechanical	hr	1,410	4.00	3.00
Overhaul, station yd	ea	880,906	0.15	0.02
Haul, ¼ mi yd	ea	647,088	0.04	0.04
1 mi	ea	1,739,365	0.065	0.055
Contour ditches	lf	5,000	0.15	0.15
Cattle guard-18' roadway	ea	2	2,200	2,000
Guard fence, stl plate	lf	1,280	5.00	5.00
Fence, galv barbed wire	lf	20,610	0.16	0.30
Gates, standard type	ea	8	50.00	50.00
Bracing	ea	195	9.00	10.00
Farm fence, galv woven wire	lf	23,705	0.35	0.30
Project markers, std federal aid, type 1	ea	2	75.00	50.00
Warning posts-refl, treated timb, 8" dia	ea	100	5.50	7.00
Selected material, controlled gradation	t	55,615	0.55	0.40
Crushed rock - maximum size 2"	t	93,550	1.10	1.00
1"	t	33,145	1.30	1.50
Bituminous matl-type MC-1	bbl	2,395	7.10	7.25
Bituminous matl, type 120-150	bbl	800	7.10	7.75
Cover material	t	1,045	6.00	6.00
Surface course, plant mix	t	32,000	3.85	4.50
Bit matl, type 85-100, hot plant	bbl	6,065	6.70	6.90
tack	bbl	750	7.00	9.00
Conc, cl A	cy	4,831	54.00	57.00
Reinf for conc struct	lb	588,150	0.15	0.15
Grouted rock retards	cy	225	20.00	15.00
Culv, CMP, 12"	lf	60	3.00	5.00
Culvert pipe 24" dia	lf	740	7.00	8.00
30"	lf	438	7.50	10.00
36"	lf	644	11.50	14.00
48"	lf	162	16.00	19.00
54"	lf	164	18.50	25.00
ROW Markers, remove, reset & repaint	ea	57	4.00	5.00

Time to complete: 300 working days
Liquidated damages: $100.00 per day

St. Lawrence Seaway Job Tops Estimate by 26%

Great Lakes Dredge and Dock Co., of Buffalo, N. Y., took this $3,487,075 contract for channel excavation on St. Lawrence River at a price 26% above the engineer's estimate, without profit but 8.5% and 55.4% below the two other bids received.

Work for the Buffalo District of the Corps of Engineers, Colonel Loren W. Olmstead, District Engineer, is part of the $150-million project to deepen connection channels between the Great Lakes.

The 3,100-ft stretch covered by the present contract begins at the mouth of Grass River and runs upstream to the lower entrance of the Grass River Lock. This section is located between Massena Point and Cornwall Island, seven miles east-northeast of Massena, N. Y.

The contractor will remove approximately 1.8 million cu yd of material consisting mainly of marine clay to deepen the channel to a depth of 27 ft. The width will vary from 200 ft at the lock site to 1,100 ft at the lower or river end.

Work under this contract has to be completed by January 1, 1959, while the overall project is scheduled to be completed in June 1963.

Bidders are:

1	Great Lakes Dredge & Dock Co., Buffalo, New York	$3,487,075
2	Dunbar & Sullivan Dredging Co., Detroit, Mich	3,810,975
3	Peter Kiewit Sons' Co. & Badgett Mine Stripping Corp., Massena, N. Y., & Madisonville, Ky	6,293,535
EE	Col. Loren W. Olmstead, Dist. Engr., Corps of Engrs., Buffalo, N. Y.	2,773,255

Bids: 10-11-56 Items	Unit	Quantity place measure	Unit Prices 1C	2
Material other than ledge rock 1st 1,606,000 cy above contract	cy	1,606,000	$1.96	$2.10
Remaining matl remove contract grade	cy	180,500	1.43	1.75
Material remov below contract grade	cy	70,000	1.16	1.75

To be completed: 1-1-59

Materials and Labor Prices — November Market Quotations by ENR Field Reporters

See following ENR issues for OTHER PRICES:

- Wood Products, Glass, Explosives, Chemicals: Last, Nov 22; Next, Dec 20
- Clay Products, Lime, Plaster, Paint, Roofing: Last, Nov 29; Next, Dec 27
- Wage Rates, Building Board, Lath, Insulation: Last, Nov 29; Next, Jan 4
- Cement, Aggregate, Ready-Mixed Concrete, Asphalt: Last, Dec 6; Next Jan 11

IRON AND STEEL PRODUCTS — PER 100 LBS. BASE MILL PRICES

	STRUCT SHAPES	PLATE CARBON STEEL	REINF BARS billet	RIVETS ½-in. structural	SHEET PILING Base	STEEL RAILS Per Net Ton Standard	STEEL RAILS Per Net Ton Light	TRACK SUPPLIES Angle Bars	TRACK SUPPLIES Std. Spikes	TRACK SUPPLIES Tie Plates	TRACK SUPPLIES Track Bolts
Birmingham Area	$5.00	$4.85	$5.075	$10.85		$101.50	$120.00	$6.35	$8.775	$6.025	.....
Chicago Area	5.00	4.85	5.075	10.85	$5.90	101.50	120.00	6.35	8.775	6.025	.....
Pittsburgh Area	5.00	4.85	5.075	10.85	5.90	101.50	120.00	6.35	8.775	6.025	$13.10
Buffalo Area	5.00	4.85	5.075	10.85	5.90	101.50	120.00	6.35	8.775	6.025	13.10
Cleveland	.....	.....	5.075	10.85	5.90	.....	.....	.....	.....	.....	13.10
Youngstown Area	.....	.....	5.075	.....	.....	.....	.....	.....	8.775	.....	.....
Geneva	5.00	4.85	5.175	.....	.....	.....	.....	.....	.....	.....	.....
Los Angeles	5.70	.....	5.775	.....	5.90	.....	.....	.....	8.775	.....	.....
Pueblo	.....	.....	.....	.....	.....	.....	.....	6.35	8.775	6.025	.....

IRON AND STEEL PRODUCTS — F.O.B. WAREHOUSE, PER 100 LBS., BASE PRICE

	STRUCTURAL SHAPES Per 100 lb. base price	REINFORCING BARS Per 100 lb., base price: 5 tons to carload lot New billet	REINFORCING BARS Per 100 lb., base price: 5 tons to carload lot Rail steel	EXPANDED METAL LATH: Per 100 sq. yd., carload lots Std. diamond mesh, 3.4 lb.	EXPANDED METAL LATH: Per 100 sq. yd., carload lots Std. ribbed 3.4 lb.	WELDED FABRIC REINFORCING Per 100 sq. ft., carload lots fob mill: 4 × 18 in., No. 8 & 10 wire — Joliet, Ill., Donora, Pa., Monessen, Pa.	WELDED FABRIC REINFORCING Per 100 sq. ft., carload lots fob mill: 4 × 12 in., No. 8 & 12 wire — Joliet, Ill., Donora, Pa., Monessen, Pa.	WELDED FABRIC REINFORCING Per 100 sq. ft., carload lots fob mill: 8 × 8 in., No. 6 & 6 wire — Joliet, Ill., Donora, Pa., Monessen, Pa.
Atlanta	$11.50		$8.90[c]	$49.50	$54.00			
Baltimore	8.67	8.10[j]		42.00	46.50			
Birmingham	8.05[d]	7.91[f]	7.91[f]	65.00[p]	71.00[p]	$3.66	$3.43	$3.84
Boston	8.90[a]	8.47	8.47	48.00	52.50	.....	.....	.....
Chicago	8.05	6.81[gu]	6.81[gu]	52.00[‡]	63.00[‡]	.....	.....	.....
Cincinnati	8.70[ak]	7.69[ra]	.....	45.00[ma]	49.50[ma]	.....	.....	.....
Cleveland	8.38	6.79[c]	.....	43.50[‡]	48.00[‡]	.....	.....	.....
Dallas	9.45	8.25	8.25	49.00	52.00	.....	.....	.....
Denver	9.60	8.45[c]	.....	57.00[a]	63.00[a]	.....	.....	.....
Detroit	8.55	8.13	.....	56.00	63.00	.....	.....	.....
Kansas City	8.87[a]	8.73	.....	49.00	60.00	.....	.....	.....
Los Angeles	8.70[fd]	7.35	.....	57.50	63.50	.....	.....	.....
Minneapolis	8.45[d]	8.76[b]	8.76[b]	41.50	46.00[e,x]	.....	.....	.....
Montreal	8–8.75[dC/8.05–8.45[dA	7.75/8.95[b]	7.75/8.95[c]	65.70[h]	70.20[h]	.....	.....	.....
New Orleans	.....	7.65[aks]	.....	45.50	50.00	.....	.....	.....
New York	8.71	7.93[y]	7.93[y]	50.50[no]	57.00[no]	.....	.....	.....
Philadelphia	8.04	7.14	.....	42.50[‡]	47.00[‡]	.....	.....	.....
Pittsburgh	7.43	6.57[**]	.....	42.50	47.00	.....	.....	.....
St. Louis	8.48[z]	7.90[c]	7.90[c]	62.00[f]	62.00[f]	.....	.....	.....
San Francisco	8.95	8.90[j]	.....	47.50	53.00	.....	.....	.....
Seattle	9.15	8.35[c]	.....	62.00[nr]	68.00[nr]	.....	.....	.....
Toronto	8.45[*]	7.60	7.60	56.00[nq]	59.00[nq]	.....	.....	.....

Quantity extras, per cwt: under 100#, +$5; 100-399#, +$3.50; 400-999#, +$2.50; 1000-1999#, +1.00; 2000-4999#, base price; 5000-9999#, −10¢; 10,000-19,999#, −30¢; 20,000-29,999#, −50¢; 30,000# and up, −70¢.

EXTRAS, per cwt: *Quantity: less than 700#, +50¢; 700-1499#, +25¢; 1500-2999#, +10¢; 3000-7999#, base price; 8000-19,999#, −10¢; 20,000-39,999#, −20¢; 40,000-79,999#, −30¢; 80,000# and up, −40¢. *Size: #3, +$2.20; #4, +$1.10; #5, +82.5¢; #6, +55¢; #7, +45¢; #8, #9, #10, #11, +35¢. *Bending: heavy, +50¢; light, +$2 (except in New York City and surrounding metropolitan area where bending must be done on the job). *Engineering (details and placing from designs by others): over 500 tons, +45¢; 200-500 tons, +50¢ but not over $4500; 20-200 tons, +60¢ but not over $2000; 5-20 tons, +70¢ but not over $240; under 5 tons, +85¢ but not over $70. *Design only: +60¢.

*‡ Delivered *a 2000-9999# *b 10,000-19,999#, fob city *c 20 tons or over *d 10,000-19,999# *e Intermediate strutt'l *f Incl. delivering in free zone *g CL *h list price; dominion tax exempt; add provincial and municipal taxes *i add dominion, provincial and municipal sales taxes *j Intermediate and hard grade *k fob city *l delivered; contractor to do unloading *m copper alloy *n LCL *o asphalt coated *p del. of 500 sq. yd. or more. *q 3 lb *r 2% off for cash *s 2,000-4,999# *t add 15¢ del. *u add 8.25¢ switch *v incl 15¢ del. *x add 5¢ switch *y add 30¢ del. *z add 10¢ del. *A American made. *C Canadian made. ** Aver. of Canadian & American.

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Atlanta	123.5	$1.64	$2.68	$.55	$1.30	$4.95[*]	$12.25	$225.00		$0.88[m]	$3.25[m]
Baltimore	132.9	1.64	2.48	.665	1.28	5.08[v]	12.71	187.80	$289.20	1.01	2.75[m]
Birmingham	119.0	1.64	2.68	.44	.81	3.55[w]	10.37[w]	260.00[‡]	440.00[‡]	1.90[m]	4.00
Boston	135.6	1.66	2.46	.788[grt]	1.502[grt]	6.211[grt]		203.40[r]	312.60[r]	1.60[mg]	3.80[mg]
Chicago	133.4	1.64	2.46	.93[m]	1.78[m]	7.52[m]	21.16[m]	220.00[m]	330.00[m]	1.30	4.00
Cincinnati	128.2	1.66	2.55	.665[f]	1.282[f]	4.905[f]	12.505	240.00	370.00	.85[m]	3.25[m]
Cleveland	134.2	1.66	2.55	.567[z]	1.0935[z]	4.545[f]	11.787[f]	149.40[m]	231.60[m]	.85[m]	3.50[m]
Dallas	130.5	1.66	2.80	.439	.799	4.00[b]	9.17[b]	.....	.....	.93	1.88
Denver	140.1	1.73	2.80	.47[n]	.84[n]	3.73[n]	.....	.....	.....	.74[m]	2.50[m]
Detroit	134.5	1.66	2.55	.85	1.60	6.45	17.50	240.00[m]	370.00[m]	.95	3.82
Kansas City	131.1	1.66	2.55	.61	1.105	4.54	12.75	260.00	485.00	.90	2.90
Los Angeles	140.2	1.73	2.46	.74[l]	1.61[l]	6.42[l]	15.36[l]	360.00[f]	530.00[f]	1.02	3.02[f]
Minneapolis	142.0	1.68	2.68	.83[mo]	1.50[mo]	6.50[mo]		.....	.....	1.76[h]	5.74[h]
Montreal	.....	.....	.....	1.02[u]	1.80[u]	6.30[u]	12.00[u]	.....	.....	1.17[h]	3.11[y]
New Orleans	126.1	1.64	2.68	.51	.925	5.18	.....	350.00[p]	550.00[p]	.75	2.50
New York	131.4	1.66	2.46	.99	1.88	7.37	19.06			1.50	3.00
Philadelphia	130.8	1.64	2.46	.65	1.25	4.95[v]	12.65[v]	300.00[‡]	350.00[‡]	1.60[h]	3.95[h]
Pittsburgh	135.3	1.66	2.46	.468[m]	.884[m]	3.86[m]	9.78[m]	152.00	244.00	1.05[h]	2.50[h]
St. Louis	129.6	1.64	2.55	.59	1.08	4.45	10.80	180.00[f]	380.00[f]	1.45[d]	3.10[d]
San Francisco	140.2	1.73	2.46	.74[d]	1.62[d]	6.59[d]	16.47[d]	320.00[f]	530.00[f]	1.06[m]	3.30[m]
Seattle	140.8	1.73	2.46	.66[b]	1.26[b]	6.65	18.80	220.00[c]		1.00[h]	3.10[h]
Toronto	.....	.....	.....	.76	1.425	6.00	.....	157.00	280.00	.87	3.05

*‡ Delivered. *a PRICE INDEXES for CENTRIFUGAL CAST IRON PIPE (Include carload freight allowed to city). These also serve as the HISTORICAL RECORD of THE $ PER NET TON PRICE of CLASS B, B&S, PIT CAST IRON PIPE. F.O.B. Foundry Price Indexes Birmingham, Ala., 119.0; Burlington, N. J., 127.8. *b Extra strength ASTM C 200-44T *c 4-in., $113 *d SS361-A *e 30-in. *f 21 in. *g culvert pipe; reinforced, ASTM C 76-41 *h reinforced, ASTM C 75-41 *i reinforced, ASTM C 76-37 *j centrispun; no standard specs. in Canada *k 2% off for cash *l fob plant *m truck delivery *n LCL delivered, fob truck *o listed price based on LCL (no min.) *p freight allowed to destination in city *q ASTM C 13-40 *r CL fob origin, freight allowed *s 2 ft lengths *t 3 ft lengths *u CESA A 60-1941 specs, used *v standard strength *w ss; add 20% for d.s.

*WROUGHT STEEL PIPE (Full standard weight) — Discount from list; see footnotes

	Black %	Galv. %	Lap Weld 2½ to 8 in. Butt Weld 2½ & 3 in. Black %	Lap Weld 2½ to 8 in. Butt Weld 2½ & 3 in. Galv. %
Mill: Lorain, Ohio; Alquippa, Pa.; Sparrows Pt., Md.	13 50a 7 50a	+0.75a +11 25	13 50a 7 50a	+0.75a +6 25a
Benwood, W. Va.; Youngstown, O.; Indiana Harbor, Ind.	13 50+ 12 50ab	+0.75a +6 25a	13 50a 11 75d	+4 25a +2 50d
Sharon, Pa.; Wheatland, Pa.	13 50a 11 75d	+4 25a +2 50d	13 50a 11 75d	+4 25a +2 50d
Elba, Pa.	11 75d	+2 50d	11 75d	+2 50d
Pittsburg, Calif.	1 00ab	+17	1 00ab	+17 75ab

b Continuous weld. † Threaded and coupled. a 2½ to 4 in. 5 and 6 in. d 6 in.

*WROUGHT STEEL PIPE: Deduct discounts shown above from the following standard list consumers carload prices to get mill price. List prices per ft. (based on approx. $200 per net ton): Butt Weld ⅛ in., 8½¢; ¼ in., 6¢; ⅜ in., 6¢; ½ in., 8½¢; ¾ in., 11½¢; 1 in., 17¢; 1¼ in., 23¢; 1½ in., 27½¢; 2 in., 37¢; 2½ in., 58½¢; 3 in., 78½¢. Lap Weld 2½ in., 92¢; 4 in., $1.09; 5 in., $1.48; 6 in., $1.92. Add freight rates plus 3% transportation tax to get destination price.

WROUGHT IRON PIPE: List prices per ft. same as for wrought steelpipe, but add following "discounts" to get Pittsburgh mill price: Butt Weld—1 in. black, + 66.54, galv., + 98.77; 1¼ in. black, + 65.54, galv. + 95.23, 1½ in. black, + 61.79 galv. + 91.22; Lap Weld—2½ in. to 3 in. black + 67.95 galv. + 95.77; 4½ in. to 8 in. black + 64.74 galv. + 90.88 Add freight rates plus 3% transportation tax to get destination price.

Bids Asked—Low Bidders—Contracts Awarded—First Section—

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 36, N. Y., ELSIE EAVES, Manager
J. A. MAHONEY, M. WETZEL, L. M. FELIX, M. E. SCIORRA, F. S. DEMBEK, Reports.
J. H. WEBBER, M. R. ROESSLER, E. R. HUBER, Statistics.

NEW ENGLAND

HEAVY CONSTRUCTION—BA

† **Massachusetts**—BA 12/19—U. S. Eng., 150 Causeway St., Boston, Zone 14, Imprvt. dredging Weymouth Fore River, CIVENG-19-016-57-54.

† **Mass., Lincoln**—LABORATORY—BA 12/20—U. S. Eng., 150 Causeway St., Boston, Sciences Laboratory Wing "C" Air Force Cambridge Research Center, ENG-19-016-57-93. $800,000-$900,000. Plans deposit $25, refundable. Extended date. Shepley, Bulfinch, Richardson & Abbott, 1 Court St., Boston, archts. CD 11/23.

† **N. H., Portsmouth**—DRAINAGE—BA On Or About 1/8—U. S. Eng., 150 Causeway St., Boston 14, Mass., drainage, Portsmouth Air Force Base to North Mill Pond, ENG-19-016-57-127. Est. $300,000-$400,000. CD 12/6/51.

BUILDINGS—BA

▲ **Conn., New Haven**—DORMITORY—BA 12/19—Yale University, c/o Charles S. Gage, treas., 119 College St., women's dormitory, Proj. 6-CH-4 (D). $1,000,000. Plans deposit $50. Douglass Orr, 111 Whitney Ave., archt. Hubbard, Lawless & Blakeley, 110 Whitney Ave., and Henry A. Pfisterer, 111 Whitney Ave., engrs. CD 11/19.

Mass., Waltham—CHURCH—BA 12/19—Chancery Office, 1 Lake St., Brighton, for St. Joseph's R. C. Church, Rev. Dumas, pastor, Main St., Waltham, church, Main St., $600,000. Plans deposit $100, refundable. Fontaine & Bohl, 223 Thayer St., Providence, R. I., archts. CD 9/7/55.

▲ **Maine**—HOUSING—BA 12/21—U. S. Eng., 150 Causeway St., Boston, Mass., construct and finance family housing on site imprvs. (Capehart), for U.S.A. Air Force Bases, Caribou, Caswell, Connor and Limestone, ENG-19-016-57-28. $1,500,000. Plans deposit $10. CD 10/26.

Conn., Avon—GARAGE—BA 12/26—State P. Wks. Dpt., 165 Capitol Ave., Hartford, Proj. CP-S-53, 12-stall masonry garage for State Highway Dpt. $100,000. Plans deposit $10.

Conn., Danbury—HALL—BA 12/26—State P. Wks. Dpt., 165 Capitol Ave., Hartford, Fairfield Hall addn. State Teachers College, Proj. BI-R-137. $375,000. Plans deposit $10. Wm. W. Sunderland, 81 West St., archt. Fred K. Dixon, 3720 Main St., Bridgeport, engr. CD 3/14.

▲ **Mass., Holyoke**—FACTORY, etc.—BA 12/27—American Pad & Paper Co., 88 Winter St., Holyoke, (selected list bidders) 120,000 sq. ft. factory and office, Appleton and Winter Sts. $1,000,000. Monson, Mallis & Reinhardt, Inc., 121 Chestnut St., Springfield, archt. CD 6/28, under Holyoke Water Power Co., as owner.

† **Conn., Waterbury**—TRAINING CENTER—BA On Or About 12/28—U. S. Eng., 150 Causeway St., Boston 14, Mass., Army Reserve Training Center, ENG-19-016-57-114. $250,000-$350,000. CD 9/6.

▲ **Conn., Winsted**—SCHOOL—BA 12/28—Regional School Dist. No. 7, P.O. Box 656, Winsted, general contract and electrical work, regional high school and agricultural bldg. for Barkhamsted, Colebrook, Norfolk and New Hartford. $1,400,000. Plans deposit $100. Extended date. Louis E. Jallade, 597 Fifth Ave., New York, N. Y., archt. CD 11/28.

Conn., Storrs—WAREHOUSE—BA 1/2—State P. Wks. Dpt., 165 Capitol Ave., Hartford, 3 story shipping and receiving warehouse, University of Conn., Proj. BI-D-202, $615,000. Plans deposit $15. Frederic C. Teich, 252 Asylum St., Hartford, archt. Hubbard, Lawless & Blakeley, 110 Whitney Ave., New Haven, engrs. CD 7/18.

Conn., New Britain—FOOD SERVICE—BA 1/9—State P. Wks. Dpt., State Office Bldg., Hartford, brick, steel, concrete Food Service Bldg., Conn. Teachers' College, Proj. BI-R-138. $350,000. Plans deposit $15. David C. Barker, 343 Fairfield Ave., Hartford, archt. A. John Macchi, 57 Farmington Ave., Hartford, engr. CD 8/27.

HEAVY CONSTRUCTION—LB & CA

Roslyn Contg. Co., 169 Mt. Auburn St., Watertown, Mass. LB **$74,900**, est. $80,000 structural fire protection facility, U. S. Naval Air Station, NBy 5058, Spec. 5058/56, BRUNSWICK, ME. First Naval Dist., 495 Summer St., Boston, Mass. W. Chester Browne & Assocs., Inc., 184 Boylston St., Boston, Mass., archt. Bids Nov. 27. CD 11/9.

C. A. Batson Co., 26 Arlington St., Brockton, Mass. LB **$399,553**, est. $436,500 constr. pavilion, bait house, toll booth, pump house, Scusset Beach, Sandwich-Bourne, MASSACHUSETTS. Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, Mass. Bids Nov. 27. CD 11/8.

B. Perini & Sons, Inc., 73 Montwait Ave., Framingham, Mass. LB **$165,400**, est. $124,600. dredging Three Basins Inner Harbor, Gloucester, MASSACHUSETTS. Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, Mass. Bids Nov. 27. CD 11/19.

Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, Mass., received no bids Nov. 17, dredging two channel areas, Westport Harbor, Westport, MASSACHUSETTS. CD 11/19.

MASSACHUSETTS—Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston,

Colonna Bros., Inc., 8 Arlington Place, Framingham, Mass. CA **$565,156**, est. $481,719. hy. reconstr. John Wise Ave. and Essex Rd. Rtes. 121 and 1A, Essex-Ipswich. CD 10/15, under LB.

Salah & Pecci Constr. Co., Inc., 233 Harvard St., Brookline, Mass. LB **$476,631**, est. $500,000 site imprvs., South End, New York streets area, BOSTON, MASS. City, Urban Redevelopment Div., Boston Housing Auth., 230 Congress St., Boston, Mass. (Correction—cost). CD 11/27, under LB.

† **S. Volpe & Co., Inc.**, 185 Devonshire St., Boston, Mass. LB **$369,200**, est. $382,600. service club, Otis Air Force Base, ENG-19-016-57-97, FALMOUTH, MASS. U. S. Eng., 150 Causeway St., Boston, Mass. Creer, Kent, Cruise & Aldrich, Industrial Bank Bldg., Providence, R. I., archt.-engrs. Bids Nov. 27. CD 11/5.

CONNECTICUT—State Hy. Comn., State Office Bldg., Hartford,
rejected bids Nov. 13, b. conc. resurf. 752 lin ft. Broad St., Proj. 94-75, New London. CD 10/31.

Ducci Electric Co., Inc., 379 Goshen Rd., Torrington, Conn. LB **$147,500**. (2 bidders) fire alarm, emergency lighting, Southbury Training School, Proj. FP-B-123, SOUTHBURY, CONN. State P. Wks. Dpt., 165 Capitol Ave., Hartford, Conn. Bids Nov. 28. CD 11/21.

Perazzini Constr. Co., Inc., 94 Edwin Ave., Waterbury, Conn. CA **$95,420**. 9,500 ft. 8 and 12 in. vitr. tile sanitary sewers, Meriden Rd. and sloping acres, WATERBURY, CONN. City Bd. P. Wks., City Hall, Waterbury, Conn. Bids Nov. 13. CD 11/12.

Harvey Constr. Co., Inc., 450 Valley St., Manchester, N. H. LB **$987,000**, est. $1,200,000. LIBRARY, DURHAM, N. H. University of New Hampshire, Durham, N. H. Bids Nov. 28. CD 11/20.

Lincoln Constr. Co., 353 Washington St., Brighton, Mass. LB **$353,157**, WOMEN'S DORMITORY, DURHAM, N. H. University of New Hampshire, Durham, N. H. Bids Nov. 28. CD 11/20.

▲ **M. S. Kelliher Co.**, 294 Washington St., Boston, Mass. LB **$2,195,000**. U-602, CHEMISTRY LABORATORY addn., AMHERST, MASS. Commonwealth of Mass., University of Mass., Kenneth W. Johnson, treas., c/o Div. Bldg. Constr., 38 Chauncy St., Boston, Mass. Bids Nov. 30. CD 11/8.

▲ **Tredennick-Billings Co.**, 10 High St., Boston, Mass. CA Approx. **$2,500,000**. CENTRAL BLDG., Science Park, on Boston-Cambridge land in Charles River Basin, CAMBRIDGE-BOSTON, MASS. Museum of Science, Science Park, Boston-Cambridge, Mass. CD 1/9.

Tedeshi's Supermarket, Market St., Rockland, Mass. Owner Builds. Approx. **$345,000**. 150x180 ft. SUPERMARKET, parking, Plymouth Line, KINGSTON, MASS. Ralph Lee Rankin, Pinecrest Ave., Pembroke, Mass., archt.

H. U. Bail Sons, Inc., 9 Franklin St., Southbridge, Mass. CA **$719,171**, est. $700,000. HOSPITAL addn. alterations, 100 South St., SOUTHBRIDGE, MASS. Harrington Memorial Hospital, South St., Southbridge, Mass. CD 11/20, under LB.

▲ **E & F Constr. Co.**, 94 Wells St., Bridgeport, Conn. CA **$3,000,000**. 7 story OFFICE, BRIDGEPORT, CONN. Southern New England Telephone Co., 227 Church St., New Haven, Conn. CD 10/11.

Myrose Constr. Co., 299 Main St., East Hartford, Conn. LB **$557,900** (5 bidders) moderate rental HOUSING, Proj. MR-58, EAST HARTFORD, CONN. East Hartford Housing Auth., 70 Cannon Rd., East Hartford, Conn. Bids Nov. 29. CD 11/20.

Torrington Building Co., Inc., 187 Church St., Torrington, Conn. CA **$125,000**. SERVICE BLDG. and OFFICE, LITCHFIELD, CONN. Conn. Light & Power Co., 25 Maple St., Naugatuck Conn. Bids Nov. 16, awarded Nov. 27. CD 11/15.

▲ **P. Francini & Co., Inc.**, Water St., Derby, Conn., CA **$1,334,000**. OCCUPATIONAL THERAPY BLDG., Fairfield State Hospital, NEWTOWN, CONN. State P. Wks. Dpt., 165 Capitol St., Hartford, Conn. Bids Oct. 31, awarded Nov. 15. CD 11/2, under LB.

Town of Southington, Town Hall, Southington, Conn., cancelled bids to have been opened Nov. 20, Marion Elementary SCHOOL, Marion, SOUTHINGTON, CONN. Bids Nov. 20. CD 11/8.

▲ **Anderson-Fairoaks Constr. Co.**, 220 Newfield Ave., Hartford, Conn. CA **$1,420,000**. BI-D-198, JUNIOR and SENIOR HIGH SCHOOL, University of Connecticut, STORRS, CONN. State P. Wks. Dpt., 165 Capitol Ave., Hartford, Conn. Bids Oct. 31, awarded Nov. 16. CD 11/2, under LB.

PROJECTS COVERED

By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $44,000; other public works $73,000; industrial buildings $93,000; other buildings $344,000. Also Foreign projects of $100,000 and more in size of interest to American contractors.

By Regions & Classes of Construction

(In order of Listing)

BIDS ASKED
LOW BIDDERS
CONTRACTS AWARDED

New England
Middle Atlantic
South
Middle West
West of Mississippi
Far West

PROPOSED WORK

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Public Buildings
Mass Housing
Commercial Buildings
Industrial Buildings
Unclassified

In These Stages

PROPOSED WORK: Before and including appointment of engineers or architects.
BIDS ASKED: BA (new announcements only). For full calendar, see also preceding issues.
SOON LETS CONTRACT: SLC
LOW BIDDERS: LB On jobs below $500,000 in value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.
CONTRACTS AWARDED: CA Except awards to low bidders previously reported in low bidder stage.
CD dates shown are of Construction Daily Issue in which last previous report was published.
OWNERS, ENGINEERS, ARCHITECTS, CONTRACTORS are invited to report their new jobs for listing in these reports when they meet or exceed the size minimums shown above. Address these news releases to J. A. Mahoney, REPORTS, ENGINEERING NEWS-RECORD, 330 W. 42 St., New York 36, N. Y.

Symbols and Abbreviations Include:

† Federal Government
▲ Project of $1,000,000 or over.
ENR Engineering News-Record
CD Construction Daily
For additional reports see Construction Daily.

MIDDLE ATLANTIC

HEAVY CONSTRUCTION—BA

Pa., Phila.—BA 12/17—City, Dpt. P. Wks., City Hall Annex, Bid 2723 Contr. No. 749-W, water mains in Tioga St. and other locations. CD 3/11/46.

Pa., Phila.—BA 12/17—City, Dpt. Procurement, City Hall Annex, Bid 2712-R Contr. No. SD-199-SW, Southwest Treatment Works, Penrose Ave. and 80th St., exten. of exhaust stack over sludge heating room: Bid 2698-R2 Contr. SD-220-SW, Central Schuylkill Sewage Pumping Station, furnishing, installing, connecting, testing to place in operation existing new electrically-operated traveling crane. Bids 11/20 rejected. CD 11/7.

† **New York**—BA On Or About 12/18—U. S. Eng., 111 E. 16 St., New York, Zone 3, repairs to Troy Lock, Troy, consisting of constr. new emergency dam sill, and emergency dam recesses, furnishing, installing structural steel bearing plates, misc. work, Rensselaer Co., CIVENG-30-075-57-48.

† **N. Y., Niagara Falls**—SECURITY FENCING—BA 12/19—U. S. Property & Fiscal Officer for N. Y., New York State Arsenal, 201 64 St., Brooklyn, Zone 20, security lighting New York Air National Guard Facilities, Niagara Falls Municipal Airport.

† **N. Y., Schenectady**—REHABILITATION WORK—BA 12/19—U. S. Property & Fiscal Officer for N. Y., New York State Arsenal, 201 64 St., Brooklyn, Zone 20, general masonry rehab. and appurtenant work, Administration and Operations Bldg. No. 1, N. Y. Air National Guard, Schenectady County Airport, Inv. No. NG 30-192-57-17.

New York—GENERATOR and FREQUENCY CHANGER BLDGS.—BA On Or About 1/9—U. S. Eng., 111 E. 16 St., New York, Zone 3, addns. to existing generator and frequency changer bldgs., various sites in New York and Niagara areas, Schedule III, Fort Tilden, Lido Beach, Hicksville, L. I., Kensico and Fort Slocum; Schedule KY, Cambria, Grand Island and Lewiston, ENG-30-075-57-259. $25,000-$50,000 for each schedule. Plans deposit $10 each schedule.

† **N. Y., New York**—FLAME FAILURE PROTECTION—BA 1/22—Veterans Admin., Munitions Bldg., Wash., D. C., flame failure protection control at Veterans Admin. Hospital, Bronx.

BUILDINGS—BA

Md., Towson—SCHOOL—BA 12/18—Baltimore Co., Bd. Educ., Aigburth Rd., 2 story, masonry Towson Town Junior High School, York Rd. $750,000. Plans deposit $50, Hopkins, Pfeiffer & Fenhagen, 10 E. Mulberry St., Baltimore, Zone 2, archts.

▲ **Md., Baltimore**—HOSPITALS—BA 12/19—City, Bureau Bldg., Constr., 410 Municipal Bldg., Zone 2, city hospitals, constr. and alterations to east wing of infirmary and alternate for new rear west wing, 4940 Eastern Ave. $1,000,000. Plans deposit $100, Lucius R. White, Jr., 1009 N. Calvert St., Zone 2, archt. Egli & Gompf, 1019 N. Calvert St., Zone 2, mech. engrs. Van R. P. Saxe, 1701 St. Paul St., Zone 2, mech.-engr. CD 10/23, under LB.

† **N. Y., Watertown**—TRAINING CENTER—BA On Or About 1/8—U. S. Eng., 111 E. 16 St., New York, Zone 3, U. S. Army Reserve Training Center, ENG-30-075-57-260, $500,000-$600,000. Plans deposit $25. CD 6/18, under LB.

▲ **N. Y., Brooklyn** — SCHOOL — BA 1/8 — Bd. Educ., Bureau Constr., 42-15 Crescent St., Long Island City, Zone 1, P.S. 11, Greene Ave. between Waverley and Washington Aves. $2,225,600. Plans deposit $25 general constr., $10 each, plumbing and drainage, heating and ventilating, electrical work and lighting fixtures. CD 10/31.

▲ **Pa., Embreeville**—HOSPITAL—BA 1/16—General State Auth., 18 and Herr St., Harrisburg, expansion of Embreeville State Hospital, incl. bldg. for senile patients, $2,500,000; bldg. for disturbed patients, $2,000,000; bldg. for acute patients, $2,500,000; maintenance shop and storage bldg., $300,000; administration bldg., $200,000, plus storm and sanitary sewers, water treatment, pumping and distributing facilities; alterations to present filtration plant, electrical distribution and street lighting; plumbing imprvs. to present bldg., steam distr. sys., roadways, parking areas. Total est. $8,000,000. Plans deposit $100 general constr., $100 interior heating constr., $100 interior plumbing, $100 interior electric, $25 elevators, $25 exterior plumbing, $25 sandpipe constr., $25 exterior heating, $25 exterior electrical work, C. J. Lappley, Riverview Manor, Harrisburg, archt. H. F. Lenz Co., 227 Franklin St., Johnstown, constr. engr. A. F. Jones, c/o owner, ch. engr. CD 1/9.

N. J., Belle Mead—HOUSING—BA 6/13—U. S. Eng., 111 E. 16 St., New York 3, N. Y. $100,000-$500,000. William E. Lehman, 972 Broad St., Newark, archt. CD 8/22.

HEAVY CONSTRUCTION—LB & CA

▲ **Macasphalt Constr. Corp.**, 33-15 Lawrence St., Flushing, N. Y. LB $1,563,582 (6 bidders) South Beach Improvement Contr. No. 4A, promenade, playgrounds, parking field, utilities, Miller Field to Iona St., Richmond Boro, NEW YORK. Contr. Parks, Dpt. Parks, Arsenal Bldg., Central Park 64 St. and Fifth Ave., New York 21, N. Y. Bids Nov. 29. CD 11/19.

▲† **United States Steel Corp.**, Leader Bldg., Cleveland, O. CA $4,759,045. superstructure of St. Lawrence Seaway high level bridge, will span the south Cornwall Channel of St. Lawrence River, 8 mi. northeast of Massena, for St. Lawrence Seaway Development Corp., NEW YORK. U. S. Eng., Engineer Park, Niagara and Bridge Sts., Buffalo 7, N. Y. CD 9/13.

John J. Keenan, 81 Partridge St., Albany, N. Y. CA $153,273. Contr. 7, water treatment plant structures, incl. sub-stfucture, superstructure for 1.5 MGD filter plant, etc., BETHLEHEM, N. Y. Bd. Water Comrs., Town Hall, town of Bethlehem, Delmar, N. Y. Bids Nov. 8. CD 10/9.

† **Spearin, Preston & Burrows, Inc.**, 50 Church St., New York, N. Y. CA $243,080. reconstr. South Dock, U. S. Military Academy, IFG MA 30-145-57-93, Contr. DA 30-145-MA-3768, WEST POINT, N. Y. U. S. Military Academy, Contg. Officer, West Point, N. Y. CD 10/10/46, under Public Buildings.

MARYLAND—State Rds. Comn., 108 E. Lexington St., Baltimore, Zone 2,
M. J. Grove Lime Co., Lime Kiln, Md. LB $825,005. (3 bidders) surf. 3.997 mi. Frederick By-Pass, Contr. F 490-4-720, Frederick Co. Bids Nov. 27. CD 11/19.

MARYLAND—State Rds. Comn., 108 E. Lexington St., Baltimore, Zone 2,
Rockville Constr. Co., Box 441, Rockville, Md. LB $182,606. (5 bidders) four span steel beam bridge to carry Montrose Rd. over relocated U. S. Rte. 240, 249 ft. long, 42 ft. wide, near Rockville, Contr. M 485-20-320, Montgomery Co. Bids Nov. 20.

Arundel Constr. Co., 4420 E. Eager St., Baltimore 5, Md. LB $143,853. (6 bidders) Hy. Contr. 1431 SA, sheet asph. paving, BALTIMORE, MD. City, Bureau Hys., 303 Municipal Bldg., Baltimore 2, Md. Bids Nov. 21. CD 10/21/43.

Paramount Constr. Co., Inc., 7614 Holabird Ave., Baltimore 22, Md. CA $89,724. Contr. 1429 C. C., c. conc. paving, BALTIMORE, MD. City, Bureau Hys., 303 Municipal Bldg., Baltimore 2, Md. Bids Nov. 14, awarded Nov. 28. CD 11/13.

Lopez Co., Hyattsville, Md., LB $281,051. (3 bidders) Contr. 47-51, sewer near Glenburnie and Ferndale, GLEN BURNIE, MD. Anne Arundel Co. Sanitary Comn., Glen Burnie, Md; CD 2/24;
Nichols Bros., Hyattsville, Md. LB $85,831. (3 bidders) Contr. 47-52 (Glen Burnie, Md.);
North End Contractors, Falls Rd., Baltimore 9, Md. LB $124,057. Contr. 47-53, 47-5-4 (Glen Burnie, Md.).
Columbia Constr. Co., 5203 Roland Ave., Baltimore 10, Md. LB $568,565. (5 bidders) Contr. 532 S, interceptor sewer, 15th District, TOWSON, MD. Comrs. Baltimore Co., County Office Bldg., Towson, Md. Bids Nov. 23. CD 11/13.

Myers & Quigg, Inc., 91 "O" St. S. E., Wash., D. C., LB $314,326. (5 bidders), repairing cement concrete roadways, alley pavements and sidewalks at various locations (1st Spring contract), WASH., D. C. D. C. Govt., Dpt. Highways, 499 Pa. Ave. N. W., Wash., D. C. Bids Nov. 27. CD 11/23.

† **U. S. Eng.**, 2635 Abbottsford Rd., Phila., Pa., rejected bids Nov. 14, modification of alert hangar doors and safety devices, New Castle County Airport and Dover Air Force Base, Inv. ENG-36-109-57-21, NEW CASTLE, DEL. $50,000-$100,000. CD 10/12.

BUILDINGS—LB & CA

▲ **Starrett Bros. & Eken, Inc.**, 63 Wall St., New York 5, N. Y. CA Est. $10,000,000. 27 story OFFICE, Wall St., southwest corner of William St., NEW YORK, N. Y. Metropolitan Life Insurance Co., 1 Madison Ave., New York 10, N. Y. CD 6/18.

▲ **Pompton Homes**, 89 Morris Ave., Garfield, N. J., Owner Builds, $1,350,000. 75 HOMES, Vreeland Ave. "Boonton Terrace", BOONTON, N. J. Rudolph Novak, 89 Central Ave., Clifton, N. J., archt.

Paul Sanders, 140 Park Slope, Clifton, N. J. Owner Builds. $450,000. 25 HOUSES on West Bellevue Ave., Butler Summitt Homes, BUTLER, N. J.

▲ **Turner Constr. Co.**, 420 Lexington Ave., New York 17, N. Y. CA Est. $1,800,000. 1 story 244,000 sq. ft. steel plate and tin plate processing PLANT, struc. steel, steel roof dock, aluminum insulated panel in walls, HILLSIDE, N. J. American Can Co., 100 Park Ave., New York 17, N. Y. CD 10/3.

▲ **Friel & Meltzer, Inc.**, 2 Lehman Rd., Neptune, N. J., Owner Builds. $1,200,000. 68 HOUSES, Hy. 66 and Grove Rd., NEPTUNE, N. J.

Fred Trabelzy, 1914 Plainfield Ave., South Plainfield, N. J., Owner Builds, $525,000. 30 HOUSES, Franklin Ave. SOUTH PLAINFIELD, N. J. John Decker, 1066 Oakland Ave., Plainfield, N. J., archt.

Romagnino Constr. Co., 289 Gorge Rd., Cliffside Park, N. J. LB $656,000. CHURCH, WOOD-RIDGE, N. J. Church of Assumption of Our Blessed Lady, Main Ave., Wood-Ridge, N. J. Bids Nov. 21. CD 11/15.

Kradeck Corp. Div., Decker Aviation Corp., 1367 Frankford Ave., Phila. 25, Pa. Separate Contracts. Est. $344,000. LABORATORY and OFFICE, BALA CYNWYD, PA. Walter K. Durham, 1606 Latimer St., Phila., Pa., archt.

† **Piracci Constr. Co., Inc.**, 2552 Woodbrook Ave., Baltimore 17, Md. LB $687,838. Schedule 1, $588,473, Schedule 2, enlisted men's BARRACKS, ENG-18-020-57-14, BALTIMORE, MD. U. S. Eng., 24 St. and Maryland Ave., Baltimore 18, Md. Bids Nov. 14. CD 10/16.

Goodman Constr. Co., Fallsway, Baltimore 2, Md. CA $537,000. 1 story, concrete, steel, masonry OFFICE, BALTIMORE, MD. National Maritime Union, Broadway and Fairmount Ave., Baltimore, Md. A. C. Ledner, 501 Jefferson Davis Hy., New Orleans, La., archt. Cochran, Stephenson & Wing, 925 N. Charles St., Baltimore 1, Md., resident archt. CD 5/1.

▲† **Joseph Bahn Constr. Co.**, 418 Randolph St. N. W., Wash., D. C., LB $1,289,900. (4 bidders) men's DORMITORY, Howard University, Wash., D. C. General Services Admin., P. Bldg. Serv., 19 and "F" Sts. N. W., Wash. 25, D. C. Bids Nov. 29. CD 11/7.

SOUTH

HEAVY CONSTRUCTION—BA

† **S. C., Charleston**—PIER REPAIR—BA After 12/1—National Park Service, Dept. Interior, Region One, 900 N. Lombardy St., Richmond 20, Va., repair timber pier at Fort Sumter National Monument, Charleston Harbor.

† **Kentucky**—PARK IMPRVS.—BA 12/19—National Park Service, Dpt. Interior, 19 and C Sts. N.W., Wash. 25, D. C., surfacing 1¼ mi. road and provide a concrete apron at Ferry, Mammouth Cave National Park, Edmonson Co. $75,000. CD 10/9.

▲ **Va., Fort Eustis**—BARRACKS, etc.—BA 12/19—U. S. Eng., foot of Front St., Norfolk, Zone 1, four 326-man barracks and modifications to central heating plant, ENG-44-110-57-12. $2,600,000. Mills, Petticord & Mills, 3308 14th St. N.W., Wash., D. C., archts.

La., Livingston—BA 12/20—Livingston Parish Police Jury, drainage canals, consisting approx. 1,007, 400 cu. yd. channel excav.

Fla., Homestead—CLUB—BA 12/21—U. S. Eng., Box 4970, Jacksonville, 1 story, 158x184 ft. CB-S officers' club, Homestead Air Force Base, ENG-08-123-57-22. Norman M. Giller & Assocs, 420 Lincoln Rd., Miami Beach, archts.-engrs. CD 11/14.

† **S. C., Myrtle Beach**—SHOP—BA 12/21—U. S. Eng., 31 Customhouse, Charleston, automotive maintenance shop, Myrtle Beach Air Force Base, ENG-38-081-57-17. CD 11/19.

† **Florida**—BA On Or About 1/3—U. S. Eng., P.O. Box 4970, Jacksonville, Zone 1, Canal 18, Section 2, in N.E. Palm Beach County, Central & Southern Florida Flood Control Proj., CIVENG-08-123-57-37. CD 8/13.

BUILDINGS—BA

† **Ala., Tuskegee**—TRAINING CENTER—BA 12/19—U. S. Eng., 2301 Grant St., Mobile, Zone 7, 200-man army reserve training center. Extended date. CD 10/29.

▲ **La., Baton Rouge**—COURT HOUSE—BA 12/20—City and Parish of East Baton Rouge, 4 story, bsmnt., East Baton Rouge Parish Courthouse addn., alterations. $1,100,000. Plans deposit $70. Bodman & Murrell & Smith, Box 2267, archts.

† **Va., Little Creek**—COMMISSARY STORE—BA 12/20—Dist. P. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, remodel commissary store, Naval Amphibious Base, NBy 3736, Spec. 3735/56. Plans deposit $25.

Ga., Vienna—SCHOOLS—BA 1/8—State School Bldg. Auth., 244 Washington St., S.W., Atlanta, Dooly County High School, Unadilla Elementary and High School addn., Vienna Elementary and High School addn., Byromville Elementary School addns. and Unadilla Elementary School, Dooly County. Plans deposit $50. Stevens & Wilkinson, 157 Luckie St., N.W., Atlanta, Zone 3, archts.

BUILDINGS—SLC

▲ **Miss., Columbus**—HOUSING—Procurement & Contg. Office, Columbus Air Force Base, soon lets contract construct and finance 480 housing units (Capehart). INV No. IFB 22-608-57-1. $7,920,000. CD 10/23, date. CD 10/23.

HEAVY CONSTRUCTION—LB & CA

† **McDonough Constr. Co. of Fla.**, 8247 S. Dixie Hy., Miami 43, Fla., CA $127,975, emergency repairs to hurricane damage, San Salvador Auxiliary Air Force Base for Air Force Missile Test Center Offshore Facilities, NBy 8626, BRITISH WEST INDIES. Dist. P. Wks. Offices, 6th Naval Dist., Bldg. 12, U. S. Naval Base, Charleston, S. C.

▲† **M. B. Kahn Constr. Co.**, 1113 Blossom St., Columbia, S. C., CA $1,124,279, airmen's dormitories, airmen's dining hall and boiler house addn., Shaw Air Force Base, ENG-38-081-57-7. SUMTER, S. C. U. S. Eng., 31 Customhouse, Charleston, S. C. Bids Nov. 15. CD 11/21, under LB.

Town, Town Hall, Belleview, Fla., rejected bids Nov. 12, water imprvs., BELLEVIEW, FLA. LB $59,343. CD 11/28, under LB.

Logan Diving & Salvage, 306 Consolidated Bldg., Jacksonville, Fla., LB $164,230. Combined influence range, Navy Mine Defence Laboratory, NBy 7889, Spec. 7889/56, PANAMA CITY, FLA. P. Wks. Office, 6 Naval Distr. Bldg. 12, Charleston, S. C. Bids Nov. 21. CD 10/26.

† **J. B. Talley**, St. Martinville, La. LB $79,937. (3 bidders) contr. Franklin pumping station along Hanson Canal levee, Franklin, Inv. 57-100, LOUISIANA. U. S. Eng., foot of Prytania St., New Orleans, La. Bids Nov. 27. CD 11/7.

† **Perrilliat-Rickey Constr. Co., Inc.**, 1530 S. Rendon St., New Orleans, La. LB $916,773, est. $1,000,000. (2 bidders) airmen's dining hall, dormitory, Lake Charles Air Force Base, Inv. 57-9, LAKE CHARLES, LA. U. S. Eng., P. O. Box 267, Lake Charles, La. Bids Nov. 20. CD 10/19.

† **Codell Constr. Co.**, Winchester, Ky. LB $533,914, est. $484,303. levee and drainage work, Cumberland River, Barbourville, Knox Co., ENG-40-058-57-13, KENTUCKY. U. S. Eng., Federal Bldg., Nashville, Tenn. Bids Nov. 28. CD 11/19.

† **H. & R. Stockstill**, Carriere, Miss., CA $69,431. clearing approx. 61,000 lin. ft. existing channel of Obion River, Item No. L-825D, Chic, CIVENG-40-041-57-76, TENNESSEE. U. S. Eng., P. O. Box 97, Memphis 1, Tenn. Bids Oct. 30. CD 10/16.

BUILDINGS—LB & CA

Eugene Simpson & Bro., 300 Montgomery St., Alexandria, Va., LB $406,400 (4 bidders) JAIL, ALEXANDRIA, VA. City, City Hall, Alexandria, Va. Willgoss & Chase, 300 Montgomery St., Alexandria, Va., archts. Bids Nov. 27.

▲ **Banks & Lee, Inc.**, Tower Bldg., Wash., D. C. Owner Builds. $16,000,000. SHOPPING CENTER, Hybla Valley, FAIRFAX, VA. John M. Walter & Assocs., 2049 15th St. N., Arlington, Va., archts.

▲ **Doyle & Russell, Central Natl. Bank Bldg., Richmond, VA.** CA Est. $2,500,000. 6 story with 8 story center section OFFICE, RICHMOND, VA. Seaboard Air Lines R.R. Co., W. D. Simpson, ch. engr., Seaboard Bldg., Norfolk 10, Va. Bids Nov. 27. CD 10/24.

▲ **Cooper Constr. Co.**, Box 8124 Jacksonville, Fla., LB $1,018,280. PHYSICS, MATHEMATICS, PSYCHOLOGY, CLASSROOM BLDG., University of Florida, GAINESVILLE, FLA., Fla. State Bd. Control, University of Florida, Gainesville, Fla. Bids Nov. 27. CD 11/8.

▲ **Ruscon Constr. Co.**, 1508 Prudential Bldg., Jacksonville, Fla., CA $1,085,971. WOMENS DORMITORY, University of Florida, Fla. B-CH-13-D, GAINESVILLE, FLA. Fla. State Bd. Control, Admin. Bldg., University of Florida, Gainesville, Fla. Bids Oct. 10, awarded Nov. 26. CD 10/16, under LB.

S. J. Curry & Co., Box 1436 Albany, Ga., CA $736,637. CLASSROOM BLDG., School of Business Admin., Florida State University, TALLAHASSEE, FLA. Florida State Bd. Control Education Bldg., State University, Tallahassee, Fla. Bids Oct. 31, awarded Nov. 26. CD 11/8, under LB.

▲ **Fluor Corp., Ltd.**, 2500 S. Atlantic Blvd., Los Angeles 22, Calif. CA Est. $2,000,000. design and construct phosphate fertilizer PLANT, PASCAGOULA, MISS. Coastal Chemical Corp., Pascagoula, Miss.

Geo. Caldwell, Box 477, Baton Rouge, La. LB $452,908. (9 bidders) 1 story, brick, steel 18,000 sq. ft.

CHURCH, BATON ROUGE, LA. St. Gerard Majella Church, 5354 Plank Rd., Baton Rouge, La. LeBlanc & Deen, 4771 Convention St., Baton Rouge, La., archts.

Jesse F. Heard & Sons, 503 Oakland St., West Monroe, La. CA $563,000 Base Bid general constr. West Monroe JUNIOR HIGH SCHOOL, West Monroe MONROE, LA. Ouachita Parish School Bd., 707 John St., Monroe, La. Bids Nov. 13. CD 11/1.

The Werner Co., Box 908, Shreveport, La. LB $956,600. (6 bidders) Proj. 0 12 0BS 2, State OFFICE, SHREVEPORT, LA. State Bldg. Auth., Capitol Bldg., Baton Rouge, La. Bids Nov. 27. CD 11/13.

MIDDLE WEST

HEAVY CONSTRUCTION—BA

† **Wisconsin**—SENTRY BOXES, etc.—BA On Or About 12/19—U. S. Eng., 475 Merchandise Mart, Chicago, Zone 54, Ill. sentry boxes and related work, Special AAA sites, Milwaukee and Waukesha Counties, Serial No. ENG-11-032-57-45.

† **Illinois**—FACILITIES—BA On Or About 12/20—U. S. Eng. 475 Merchandise Mart, Chicago, Zone 54, addnl. facilities for existing water supplies at Special AAA Sites, C-92, C-84, C-54 and C-51, Cook and La Salle Counties, Serial No. ENG-11-032-57-37.

▲† **Ill., Springfield**—RUNWAYS, etc.—BA 12/29—U. S. Eng., 475 Merchandise Mart, Chicago, Zone 54, runways, supply bldg. and parking areas. National Guard Hangar, Over $1,000,000. CD 4/27.

† **O., Dayton**—WAREHOUSE—BA 1/10—U. S. Eng., P.O. Box 59, Louisville 1, Ky., remedial work for A.M.C. warehouse "A", Gentile Air Force Depot, ENG-15-029-57-32. CD 12/2/53.

† **O., Chillicothe**—ELECTRICAL DISTR.—BA 1/15—Veterans Admin., Munitions Bldg., Wash., D. C., extend underground electrical distr. sys. to seven bldgs. $50,000-$70,000. Bids Feb. 7, 1956, rejected, LB $99,887. CD 2/13, under LB.

BUILDINGS—BA

† **Ind., Crane**—PREPARATION—BA 12/18—Dist. P. Wks. Office, Bldg. 1-A, Great Lakes, Ill, mechanical mix and chemical preparation bldg., Naval Ammunition Depot, NBy 5562, Spec. 5562/56. Plans deposit $15. CD 1/2/52.

Wis., Brookfield—SCHOOL—12/27—Union Free High School Dist. No. 1, c/o Grassold-Johnson & Assocs., archts., 734 N. Jefferson St., Milwaukee, Zone 2, high school addn. $800,000. CD 6/20.

Wis., Platteville—DORMITORY—BA 1/4—Wisconsin State College Bldg. Corp., Madison, dormitory. $600,000. Plans deposit $25. Schuberg, Sorensen & Assocs., Inc., 308 Hoeschler Bldg., La Crosse, archt. CD 2/20.

Wis., Superior—DORMITORY—BA 1/4—Wisconsin State College Bldg. Corp., Madison, dormitory. $600,000. Plans deposit $25. Schuberg, Sorensen & Assocs., 308 Hoeschler Bldg., La Crosse, archts. CD 2/17.

BUILDINGS—SLC

Ill., Chicago—FACTORY—Bagcraft Corp. of America, 4501 S. Kildare Ave., soon lets contract 1 story, 110,000 sq. ft. brick factory and office bldg., 3838 W. 43rd St. $500,000. A. Epstein & Sons, 2011 W. Pershing Rd., archts.

Ill., Chicago—WAREHOUSE—Chicago Printed String Co., 2320 W. Logan Blvd., soon lets contract, 4 story, brick, rein.-con. warehouse addn., 1934 N. Washtenaw Ave. $300,000. Henry George Codd, 228 N. La Salle St., archt.

HEAVY CONSTRUCTION—LB & CA

▲ **Hoosier Eng. Co.**, 1384 Holly St., Columbus, O. CA Est. $7,000,000. 85 mi. rural distr. lines, crossing Monroe Co., OHIO. American Gas & Electric Co., 30 Church St., New York 8, N. Y. CD 10/17/49.

† **Morris Skilken & Co., Inc.**, 696 E. Broad St., Columbus 15, O., CA $1,039,813, remedial work for Special AMC warehouse, Wilkins Air Force Base, ENG-46-022-57-11, SHELBY, O. U. S. Eng., 237 Fourth Ave., Huntington 18, W. Va. Bids Nov. 13. CD 11/23, under LB.

▲† **Ferber Co.**, 16 Johnson Ave., Hackensack, N. J. CA $1,553,173, buildings, fuel storage facilities for Air National Guard, Toledo Express Airport, ENG-46-022-57-8, TOLEDO, O. U. S. Eng., 237 Fourth Ave., Huntington 18, W. Va. Bids Oct. 4. CD 10/9, under LB.

† **Pathman Constr. Co.**, 1735 W. Fullerton Ave., Chicago, LB $824,975. Special AAA Augmented Brigade HEADQUARTERS, Sites C-80-C-81, Cook Co., Serial No. ENG-11-032-57-26, ILLINOIS, U. S. Eng., 4735 Merchandise Mart, Chicago 54, Ill. Bids Nov. 21. CD 11/12.

Burlington Constr. Co., 4164 DuBois St., Brookfield, Ill., CA, $148,067, water supply system, WESTCHESTER, ILL. Village, Village Hall, Westchester, Ill. Bids Nov. 5. CD 11/19, under LB.

Druml Co., Inc., 1788 N. Water St., Milwaukee, Wis., CA, $68,080, water pumping station, OAK CREEK, WIS. City, City Hall, Oak Creek, Wis. Bids Nov. 15. Maxon & Moore, 1744 N. Farwell Ave., Milwaukee, Wis., engrs. CD 8/23.

† **U. S. Eng.**, 600 E. Jefferson Ave., Detroit 26, Mich., rejected bids Nov. 2, Schedules III and IV, dredging Amhertsburg Channel, MICHIGAN. Will re-advertise under CIVENG-20-064-57-45. CD 11/8, under LB.

▲† **Marine Operators**, (Al Johnson Constr. Co., Peter Kiewit & Sons Co., Cunningham, Kiewit Co., and Morrison-Knudsen Co., Inc.), 608 Foshay Tower, Minneapolis, Minn. CA Est. $9,686,952, Schedules 1 and 2, dredging Amhertsburg Channel 15 mi. down Detroit River from Woodward Ave., deepen from 21 ft. at present to 27.5 ft., Wayne Co., MICHIGAN. U. S. Eng., 600 E. Jefferson Ave., Detroit 26, Mich. Bids Nov. 2, awarded Nov. 29. CD 11/8, under LB.

BUILDINGS—LB & CA

▲ **Sapulpa Tank Co.**, Berryhill Bldg., Sapulpa, Okla., CA Total est. $2,000,000-$3,000,000. structural steel for single-bin concrete steel, fiber glass GRAIN ELEVATOR with flexible fiberglass roof, MAUMEE, O. Cargill, Inc., Perrysberg-Holland Rd., Toledo, O. CD 8/14.

Albert Higley & Co., 2036 E. 22 St., Cleveland 15, O. CA Est. $250,000. PLANT expansion, incl. bldg. to house 3 story high mixing machine, MILAN, O. Clevite Harris Products, Div. Clevite Corp., 6545 Carnegie Ave., Cleveland 3, O. Arthur E. Rowe & Assoc., 3125 Prospect Ave., Cleveland 15, O., engr. Awarded Nov. 13. CD 11/9.

▲ **Sam W. Emerson Co.**, 1836 Euclid Ave., Cleveland 15, O. CA Est. $2,000,000. 2 story, brick, steel 72,000 sq. ft. PLANT addn., Worden Rd. and Euclid Ave., WICKLIFFE, O. Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, O. CD 9/24.

▲ **I. Bush & Sons**, 4204 S. Brook St., Louisville, Ky., LB $1,099,775 (10 bidders) JUNIOR and SENIOR HIGH SCHOOL, MADISON, IND. Madison Consolidated Schools, Senior High School Bldg., Broadway St., Madison, Ind. Bids Nov. 27. CD 11/14.

▲ **Abbot Constr. Co.**, 5789 N. Lincoln Ave., Chicago, Ill., CA $1,000,000. 1 story, 95,000 sq. ft. LABORATORY and OFFICES, former Studebaker engine parts plant, 5555 Archer Ave., CHICAGO, ILL. American Bosch Arma Corp., 37 S. Wabash Ave., Chicago, Ill. Robert E. Hattis Eng., Inc., 223 W. Jackson Blvd., Chicago, Ill., engr.

▲ **B. W. Handler Constr. Co.**, 223 W. Jackson Blvd., Chicago, Ill., LB $1,687,383, West Ward Bldg. addn., Oak Forest INSTITUTION, Oak Forest, CHICAGO, ILL. Cook Co. Bd. Comm., 519 County Bldg., Chicago, Ill. CD 11/12/48.

Kinnare Corp., 2816 W. Monroe St., Chicago, Ill., CA $350,000. 2 story, 30,000 sq. ft., brick, concrete FACTORY addn., 3300 W. Franklin Blvd., CHICAGO, ILL. Wilson Jones Co., 209 S. Jefferson St., Chicago, Ill. Friedman, Alschuler & Sincere, 223 W. Jackson Blvd., Chicago, Ill., archts.

▲ **Dunbar Builders Corp.**, 2637 W. Peterson St., Chicago, Ill., Own Forces, $2,000,000. fifty 2-flat cooperative APARTMENT BLDGS. 1625-1711 Washington St., Howard and Dempster Sts., and Asbury and Dodge St., EVANSTON, ILL.

† **U. S. Eng.**, Merchandise Mart, Chicago, Ill., cancelled bids to have been opened Nov. 15, 12 units of HOUSING at Special AAA Site C-61, Argonne National Laboratory, LEMONT, ILL. CD 10/29.

▲ **Hyland Builders Corp.**, 7728 N. Sheridan Rd., Chicago, Ill. Own Forces. $1,250,000. 154 unit co-op. APARTMENT, near S.W. corner North Shore and California, Peterson, Howard, Damen and Sacramento, WEST ROGERS PARK, ILL. Roy M. Schoenbrod & Assocs., 7728 N. Sheridan Rd., Chicago, Ill., archts.

Schroedel Constr. Co., 260 E. Hampton Ave., Milwaukee, Wis. Owner Builds. $600,000. SHOPPING CENTER, BROWN DEER (P.O. MILWAUKEE, WIS.).

Thomas H. Bentley & Son, 3131 W. Mill Rd., Milwaukee, Wis., LB $451,700, general contract, AUDITORIUM addn. to high school, WHITEFISH BAY, WIS. School Dist. No. 1, 1200 E. Fairmount Ave., Milwaukee 17, Wis. Bids Nov. 27.

▲ **Geo. W. Lathrop & Sons, Inc.**, 1510 Montcalm St., Toledo, O. CA $5,358,006. RESIDENCE HALL, Proj. 87, ANN ARBOR, MICH. The Regents of the University of Michigan, W. K. Pierpont, vice pres., Plant Service Bldg., Ann Arbor, Mich. CD 10/30, under LB.

Minion Constr. Co., 4571 Washtenaw St., Ypsilanti, Mich. CA $523,480. HIGH SCHOOL, MILAN, MICH. Bd. Educ., Milan Area Schools, Alice Smith, secy., Milan, Mich. CD 11/29, under LB.

Miller-Davis Co., 1029 Portage St., Kalamazoo, Mich. CA $854,840. Group 2, married students APARTMENTS, Eastern Michigan College, YPSILANTI, MICH. State, Clair L. Taylor, secy., Bd. Educ., Capitol Bldg., Lansing, Mich. CD 11/8, under LB.

WEST OF MISSISSIPPI

HEAVY CONSTRUCTION—BA

† **WYOMING**—BA 12/19—Bureau P. Rds., Dpt. Commerce, Bldg. 40, Denver Federal Center, Denver, Colo.

Washakie Co.—6.364 mi. Forest Highway Proj. 10-C-6, Unit 1, Buffalo-Tensleep grading 3.2 mi. Buffalo-Tensleep, Wyo. Proj. 10-C-6, $400,000. Mark U. Watrous, div. of engr. CD 4/5.

† **Missouri**—BA 12/21—U. S. Eng., 420 Locust St., St. Louis, Zone 2, railroad closure structures, Perry County Drainage and Levee Districts Nos. 1, 2 and 3, Proj. Items VI-G and I-D, Perry Co., CIVENG-23-065-57-41. CD 6/1/44.

† **Minn., Bagley**—GAP FILLER FACILITY—BA 12/27—U. S. Eng., 1217 U. S. Post Office & Custom House, 180 E. Kellogg Blvd., St. Paul, Zone 1, gap filler facility, ENG-21-018-57-6. CD 11/28.

Minn., Madison—BA 12/27—Lac qui Parle Co., A. J. Gloege, aud., repair D of County Ditch No. 4, repair 6.5 mi. open ditch, clean out 34,192 ft. open ditch, 116,969 cu. yd., clear, grub, dispose 6,594 trees, grub and dispose of 203 stumps, 5 timber bridges 24x18 ft., 5 timber bridges 22x18 ft. $61,818, Ted L. Chamberlain, Montevideo, engr.

Okla., Tulsa—BA 1/4—City, City Hall, 3 mi. 24 in. concrete pressure water main, $150,000. W. R. Holway, 302 E. 18 St., engr. CD 11/22/55.

† **N. D., Grand Forks**—UTILITIES—BA 1/15—U. S. Eng., 1709 Jackson St., Omaha, Neb., utilities, Grand Forks Air Force Base, Inv. 25-066-57-27. CD 8/22.

† **Colo., Colorado Springs**—COMMUNICATIONS BLDG.—BA On Or About 1/24—Dpt. Air Force, Air Force Academy Constr. Agency, P. O. Box 1670, communications bldg., Air Force Academy, Inv. (IFB) 05-613-57-15. Plans deposit $20. CD 11/9/55.

† **Colo., Colorado Springs**—PUMPING STATIONS—BA On Or About 1/8—Dpt. Air Force, Air Force Academy Constr. Agency, P. O. Box 1670, completion of well pumping stations, Air Force Academy, Inv. (IFB) 05-613-57-13. Plans deposit $20. CD 11/9/55.

BUILDINGS—BA

Colo., Denver—SCHOOL—BA 12/19—School Dist. No. 1, 414 14 St., 46,104 sq. ft. Godsman Grade School, W. Arkansas and South Vallejo Sts. $344,000, Paul R. Reddy, 303 Redding-Miller Bldg., 105 Fillmore St., archt.-engr. CD 12/8/55.

Minn., Bovey—SCHOOL—BA 1/3—Bd. Educ., Itasca Co., R. C. Carlson, clk., constr. Junior High School, $450,000. Plans deposit $25, Jyring & Whiteman, Hibbing, archts. CD 4/20/55.

▲ **Colo., Lakewood**—SCHOOLS—BA 1/10—Jefferson County School Dist. R-1, Lakewood, 1 and 2 story, 123,000 sq. ft. high school, 32 and Independence Sts., Wheat Ridge. $2,000,000. Ralph D. Peterson & Arthur Auburn Assoc., 1701 Gilpin St., Denver, archts.-engrs. CD 2/1.

Minn., Lyle—SCHOOL—BA 1/10—Bd. Educ., Independent Consolidated School Dist. No. 90 Joint, O. Rosevold, clk., high school addn. $450,000. Plans deposit $30, Swanson, Matson & Wegleitner, 500 Sexton Bldg., Minneapolis, archts. CD 10/16.

BUILDINGS—SLC

Tex., Houston—PLANT—A. C. Horn Co. of Texas (Subsidiary Sun Chemical Corp., Long Island City, N. Y.), 2120 Polk St., soon lets contract, 1st unit, paint mfg. plant. $150,000. A. C. Finalborgo, c/o owner, ch. engr. CD 7/27.

HEAVY CONSTRUCTION—LB & CA

▲ **MINNESOTA**—State Hy. Dpt., 1246 University Ave., St. Paul,

Minn.—Johnson Constr. Co., Grove City, Minn., **Barbarossa & Sons**, St. Cloud, Minn. and **Nodland Constr. Co.**, Alexandria, Minn. (joint venture). CA $2,618,786. grav. base, road-mixed bit. base, plant-mixed bit. surf. 7 bridges in Bloomington and Richfield, Hennepin Co.;

Minn.—W. Hodgman Sons, Fairmont, Minn. CA $515,633. grav. base, road-mixed bit. base, plant-mixed bit. surf. 3.5 mi. southeast of Detroit Lakes, Becker Co. CD 11/21, under LB.

† **Brisk Bros.**, Pierz, Minn. CA $51,398. clearing timber along Lake MacBride in Lake MacBride State Park, also along Mill Creek and Jordan Creek, Johnson Co. Inv. 11-117-57-17, IOWA. U. S. Eng., Clock Tower Bldg., Rock Island, Ill. Bids Nov. 15. CD 10/25.

Torson Constr. Co., 1890 Woodswether Rd., Kansas City, Mo. CA $217,392. constr. sanitary and combination storm and sanitary sewers in Dist. No. 635, Div. No. 6, approx. 680 lin. ft., rein.-con. box sewer, 13,277 lin. ft. 8- to 36-in. sewers located from Woodland Ave to Lydia Ave. between 80 and 84 Sts., KANSAS CITY, MO City, City Hall, Kansas City, Kan. Bids Nov. 23. CD 8/10/54.

† **Burns & Swilley Contractors, Inc.**, Bossier City, La. CA, $364,238. 17,900 lin. ft. trench-fill reenitment, Arkansas River, between River Mile 228.0 and 232.5, Conway and Pope Counties, ARKANSAS. U. S. Eng., P.O. Box 867, Little Rock, Ark. Bids Nov. 27. CD 11/8.

† **Kyle S. Reece**, Box 445, Hughes, Ark. CA $159,960 levee constr., incl. roadway embankment and artificial berms, 560,000 cu. yd. Item R-689, Peters, Lower St. Francis Levee Dist., Lee Co., CIVENG-40-401-57-64, ARKANSAS. U. S. Eng., P.O. Box 97, Memphis 1, Tenn. Bids Nov. 13. CD 10/11.

▲† **Peterson, Garbi & Joseph, Inc.**, 123 E. 9 St., North Little Rock, Ark. LB $1,024,277. infirmary, heating plant and utilities, Blytheville Air Force Base, ENG-03-050-57-10, BLYTHEVILLE, ARK. U. S. Eng., 300 Broadway, Little Rock, Ark. Bids Nov. 27. CD 10/25.

▲† **Guy H. James Constr. Co.**, 4901 N. Sewel St., Oklahoma City, Okla. and **J. H. Beckman Constr. Co.**, W. 12 St., Sioux Falls, S.D. LB $5,699,248. spillway earthwork, Stage II, Oahe Reservoir Proj., near Pierre, Inv. 25-066-57-44, SOUTH DAKOTA. U. S. Eng., 1709 Jackson St., Omaha, Neb. Bids Nov. 28. CD 11/8.

† **Peter Kiewit Sons Co.**, Omaha Natl. Bank Bldg., Omaha, Neb. LB $127,731. Schedule 1; $75,500, Schedule 2; $158,769, Schedule 3; $32,000, Schedule 4, (2 bidders) jet fuel storage, Ellsworth Air Force Base, Inv. 25-066-57-10, RAPID CITY, S. D. U. S. Eng., 1709 Jackson St., Omaha, Neb. Bids Nov. 27. CD 11/13.

† **Paul Moody**, Pauls Valley, Okla., LB $41,838, est. $65,000, three floodwater retarding dams, Sites 6, 7 and 8, Purcell, McClain and Garvin Counties, Inv. SCS 12-OK-57, OKLAHOMA. Soil Conservation Service, Dpt. Agriculture, Agricultural Central Bldg., Stillwater, Okla. Bids Nov. 19. CD 11/7.

† **John Cornell**, Paducah, Okla., LB $89,075, est. $135,000, earthfill embankments, Barnitz Creek Washita Watershed, Inv. SCS 10-OK-57, Custer Co., OKLAHOMA. Soil Conservation Service Dpt. Agriculture, Agricultural Central Bldg., Stillwater, Okla. Bids Nov. 19. CD 11/5.

J. L. Watson Constr. Co., 117 S. 70 Ave., Tulsa, Okla. CA $53,234, WW sys., HARRAH, OKLA. Town, Harrah, Okla. Bids Nov. 8. CD 10/23.

▲ **Tankersley Constr. Co.**, 1st Natl. Bldg., Oklahoma City, Okla.; **Cowen Constr. Co.**, Shawnee, Okla.; **Metropolitan Paving Co.**, 300 S. Indiana St., Oklahoma City, Okla. and **Tecon Corp.**, 1201 Main St., Dallas, Tex., CA Est. $10,300,000 aeronautical center, Will Rogers Airport, OKLAHOMA CITY, OKLA. Oklahoma City Airport Trust, First Natl. Bank Bldg., Oklahoma City, Okla. Hudgins, Thompson & Ball, 1411 Classen St., Oklahoma City, Okla., engrs. Awarded Nov. 26.

† **Wm. M. Cowgur & Co., Inc.**, 320 N. 4 St., St. Louis 2, Mo. CA $710,548, repairs to east and west jetties in Gulf of Mexico, CIVENG-41-243-57-4, TEXAS., U. S. Eng., Box 1229, Galveston, Tex. Bids Oct. 30. CD 11/14, under LB.

Hardin Constr. Co., 5815 Harvey Wilson St., Houston, Tex. LB $105,298. 24 in. water main in Airport Blvd., 11,509 ft. steel cylinder concrete water main, AUSTIN, TEX. City, City Hall, Austin, Tex. Bids Nov. 27. CD 5/17.

J. C. Truehart, 812 Majestic Bldg., San Antonio, Tex., LB $349,222, 109,300 ft. 6 & 12-in c.i. pipe, etc. water sys. imprvs., AUSTIN, TEX. Travis County Water Control & Imprvt. Dist. 8, Court House, Austin, Tex. Bids Nov. 27. CD 11/14.

City, City Hall, El Paso, Tex. Own Forces. $70,000, ww. lines, repairing, replacements, EL PASO, TEX. CD 3/1.

City, City Hall, El Paso, Tex. Own Forces. $90,000, imprv. sanitary sewerage sys., line repairing, replacements $75,000, storm sewers, EL PASO, TEX. CD 1/11.

Russ Mitchell, Inc., 5304 Old Spanish Trail, Houston, Tex., CA $121,528, asph. type street paving, San Jacinto St. between Wheeler and Calumet Aves., HOUSTON, TEX. City, City Hall, Houston, Tex. Bids Nov. 3.

A. P. Kasch & Sons, Box 1472, Big Springs, Tex., LB $126,000, est. $125,000, park work, incl. museum, MONAHANS, TEX. San Hills State Park and Ward Co., Monahans, Tex. Bids Nov. 20. CD 11/9.

The Austin Co., M & M Bldg., Houston, Tex. CA $45,000, design and construct water sys. SUGARLAND, TEX. Johnson Testers, Inc., 9820 Main St., Houston, Tex.

The Austin Co., M & M Bldg., Houston, Tex. CA $48,000, design and construct site development on industrial site, 200-acre site, SUGARLAND, TEX. Johnson Testers, Inc., 9820 Main St., Houston, Tex.

Travis & Miller, Box 3022, Tyler, Tex., LB $326,915, water treatment plant and raw water pump station, incl. lateral water lines, storage, WAXAHACHIE, TEX. Ellis County Water Control & Imprvt. Dist. 1, Waxahachie, Tex. Bids Nov. 20. CD 11/8;
E. E. Farrow & Co., 1518 Kings Hy., Dallas, Tex., LB $156,439, est. $55,000, 22,000 lin. ft. 20 in. c.i. water pipe laying, (Waxahachie, Tex.).

Lock Joint Concrete Pipe Co., S.W. of Cheyenne, Cheyenne, Wyo. CA $74,887, est. $225,000, pipe and materials for constr. of storm sewers, CHEYENNE, WYO. City, City & County Bldg., Cheyenne, Wyo. Awarded Nov. 27. CD 8/23.

COLORADO—State Hy. Dpt., 4201 E. Arkansas St., Denver.

Hunt Constr. Co., Steamboat Springs, Colo., CA $75,256, est. $102,000. grading, surf. 9.6 mi. John Brown Canyon, Colo. Proj. A-AA 22 (1), Mesa Co. Bids Nov. 23. CD 11/12

▲† **J. F. White Eng. Corp.**, Box 144, Englewood, Colo., CA $1,882,927. two heating plants for Air Force Academy, Proj. 05-613-57-6, COLORADO SPRINGS, COLO. Dpt. of Air Force, Air Force Academy Constr. Agency, P. O. Box 1670, Colorado Springs, Colo. Bids Nov. 27. CD 11/1.

▲† **A. S. Horner Constr. Co.**, 118 S. Pecos St., Denver, Colo., CA $3,791,174. 6 highway bridges, Air Force Academy site, Proj. 05-613-57-8, COLORADO SPRINGS, COLO. Dpt. Air Force, P. O. Box 1670, Colorado Springs, Colo. Bids Nov. 27, awarded Nov. 28. CD 11/12.

† **Lively Electric**, Borger, Tex. LB $235,387, est. $304,949. reconductoring 72 mi. Elephant Butte-Socorro 115 kv transmission line, Rio Grande Proj. Spec. DC 4796, NEW MEXICO. Bureau Reclamation, Dpt. Interior, U. S. Court House, El Paso, Tex. Bids Nov. 27. CD 10/30.

BUILDINGS—LB & CA

C. H. Peterson Constr. Co., 616 National Bldg., Minneapolis, Minn. LB $736,400. (4 bidders) general constr. HIGH SCHOOL, east of Belt Line, north of Glenwood Ave., GOLDEN VALLEY, MINN. Bd. Educ., Independent School Dist. No. 89, Grace Seed, Golden Valley, Minn. Bids Nov. 28. CD 11/15.

† **Fowler-Veranth Constr. Co.**, 303 S. First Ave. E., Duluth, Minn. LB $655,600 (3 bidders) enlisted men's MESS HALLS, LITTLE FALLS, MINN. U. S. Purch. & Disbursing Office for Minn., Camp Ripley, Little Falls, Minn. Bids Nov. 27. CD 11/8.

Holden Printing Co., 430 S. Sixth St., Minneapolis, Minn., rejected bids Sept. 14, 1 story, 145x152 ft. PLANT and OFFICE, 10 Ave. South and Fourth St., MINNEAPOLIS, MINN. Est. $300,000. CD 9/5.

Schell Constr. Co., 310 Jefferson St., Jefferson City, Mo. LB 4 story, brick, steel EDUCATION BLDG., JEFFERSON CITY, MO. First Baptist Church, Jefferson City, Mo. Bids Nov. 20. CD 11/18.

▲ **MacDonald Constr. Co.**, 1310 S. Grand Blvd., St. Louis 4, Mo. CA Est. $3,300,000. hangar for aircraft mfg. PLANT adjacent to Lambert-St. Louis Municipal Airport in St. Louis County, ROBERTSON, MO. McDonnell Aircraft Corp., Lambert-St. Louis Municipal Airport, St. Louis 21, Mo. CD 3/7/55.

▲ **S. O. & C. D. Yarbrough Constr. Co.**, P.O. Box 851, Austin, Tex. LB $2,008,987. general constr. SUPREME COURTS BLDG., 7 story, 2 bsmnt. levels, 148,000 sq. ft., AUSTIN, TEX. State Building Comn., Administration Bldg., Austin, Tex. Bids Nov. 26. CD 11/15.

BUILDINGS—LB & CA

J. B. Hughes, Box 6754, Alamo Heights Station, San Antonio 9, Tex., LB $438,500, est. $350,000. HOSPITAL UNIT for AGED, BROWNSVILLE, TEX. Sams Foundation, c/o Mercy Hospital, Brownsville, Tex. Bids Nov. 21. CD 11/21.

Baeco, Inc., 7025 Twin Hills St., Dallas, Tex., LB $144,765, est. $144,000, constr. 2nd level Police PARKING GARAGE, DALLAS, TEX. City, City Hall, Dallas, Tex. Bids Nov. 19.

Quincy Lee Constr. Co., 4608 Greenville St., Dallas, Tex. Own Forces. $352,200. 22 DWELLINGS; $372,215. 28 DWELLINGS, GRAND PRAIRIE, TEX.

Frank Bonner Howard, Contractor, 5216 Dunlavy St., Houston, Tex. Own Forces. $356,125, 22 DWELLINGS, HOUSTON, TEX. CD 11/27.

Raleigh A. Smith & Son, Inc., 5710 Airline St., Houston, Tex. Own Forces. $351,000, 26 DWELLINGS, HOUSTON, TEX. CD 10/23.

Spaw-Glass, Inc., 2411 Times St., Houston, Tex. CA $645,000. PRINTING PLANT UNIT and 2 story existing PLANT addn., HOUSTON, TEX. Gulf Printing Co., 2210 W. Dallas St., Houston, Tex. CD 11/20, under LB.

V. L. Yarbrough, 3208 Shenendoah St., Houston, Tex. Own Forces. $345,000, 17 DWELLINGS; $370,000, 25 DWELLINGS, HOUSTON, TEX. CD 11/27.

▲ **Busboom & Raugh Constr. Co.**, 6910 Forest Park Rd., Dallas, Tex., CA $1,192,096, County HOSPITAL, McKINNEY, TEX. Collin Co., Court House, McKinney, Tex. Bids Nov. 21. CD 10/25.

Quincy Lee Constr. Co., 211 Olmos Dr. W., San Antonio, Tex. Own Forces. $373,500, 38 DWELLINGS; $346,100, 30 DWELLINGS, SAN ANTONIO, TEX. CD 11/5. 11/5.

The Austin Co., M & M Bldg., Houston, Tex. CA $445,000, design and cogstruct PLANT, SUGARLAND, TEX. Johnson Testers, Inc., 9820 Main St., Houston, Tex. CD 11/28.

Hitz Constr. Co., 2111 4 Ave. N., Billings, Mont. CA, $628,000. general contract 1 story, 150x240 ft., brick AUDITORIUM and GYMNASIUM, CODY, WYO. School Dist. No. 6, Cody, Wyo. Bids Oct. 25. CD 11/2, under LB.

A. A. and E. B. Jones, 1050 S. Jason St., Denver, Colo., LB $742,916, general contract Sabin Grade SCHOOL, W. Dartmouth and S. Vrain Sts., DENVER, COLO. School Dist. No. 1, 414 14 St., Denver, Colo. Bids Nov. 21. CD 10/30.

Lembke-Clough & King, Inc., 1719 5 St. N.W., Albuquerque, N.M. LB $524,675. general constr. COURTHOUSE and JAIL, LOVINGTON, N. M. Lea Co., Lovington, N. M. Bids Nov. 19. CD 10/5.

FAR WEST

HEAVY CONSTRUCTION—BA

† **Idaho**—BA 12/20—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo.; Schedule 1, c. conc. in bulk; Schedule 2, fly ash in bulk for Palisades Dam and power plant, Palisades Proj., Spec. DS 4813, L. N. McClellan, c/o owner, ch. engr. CD 9/4.

† **Washington**—BA 12/20—Bureau Reclamation, Dpt. Interior, Ephrata, laterals and structures to serve new farm units, Blocks 72, 74 and 87, Spec. 117C-406. CD 9/10.

† **California**—BA 1/5—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, Colo. Schedule 1, nine 2 ft. 3 in. by 2 ft. 3 in. high pressure gate valves and nine 49,000 lb. hydraulic hoists, for outlet works at Casitas Dam, Ventura River Proj., Inv. DS 4814; adv. ENR 12/13.

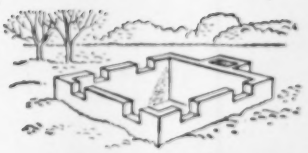
HEAVY CONSTRUCTION—LB & CA

† **Wansgaard Constr. Co.**, Logan, Utah, LB $143,912, est. $171,342, earthwork, structures and bridge, 7½ mi. of roadway, temporary access road to Flaming Gorge Dam Station, Colo. River Proj., Spec. DC 4779, UTAH. Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, Colo. Bids Nov. 27. CD 11/21.

† **The Contracting Corp.**, The Dooly Bldg., Salt Lake City, Utah, CA $78,720. Schedules 1, 2 and 4, constr. earthwork and structures, Provo River Channel Imprvt. above Deer Creek Reservoir, Mile 7.5 to 10.5 with concrete deck for bridge, Provo River Proj. Spec. 400C-74, UTAH. Bureau Reclamation, Dpt. Interior, Spanish Fork, Utah. Bids Nov. 1, awarded Nov. 23. CD 10/17.

ARIZONA—State Hy. Dpt., 17 Ave. and Jackson St., Phoenix.

Givens Constr. Co., P.O. Box 470, Phoenix, Ariz., CA, $94,255. 2 rein.-con. continuous slab bridges Kirkland-Prescott Highway Yavapai Co. Bids Nov. 7. CD 10/30.



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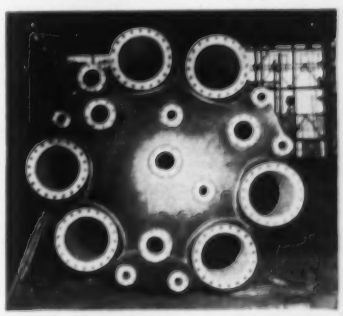

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† **Rutherford Constr. Co.**, 915 Hazeldine St. S.E., Albuquerque, N. M., LB **$718,311** (9 bidders) airmen's dormitories, Vincent Air Force Base, Group A & Group B, ENG-04-353-57-5, YUMA, ARIZ. U. S. Eng., 751 S. Figueroa St., Los Angeles, Calif. Bids Nov. 16. CD 11/14.

† **Wm. Gross Constr. Co.**, Auburn, Calif., LB **$60,340**, est. $85,553 (15 bidders) cemetery transfer, Oregon and Washington Shores, CIVENG-35-026-57-113, OREGON and WASHINGTON. U. S. Eng., Pittock Block, Portland, Ore. Bids Nov. 26. CD 11/15.

▲† **R. A. Heintz Constr. Co.**, 211 N.E. Columbia Blvd., Portland, Ore., LB **$1,074,345**, est. $944,533, constr. Howard Prairie Dam, Rogue River Basin Proj., Talent Div., Spec. DC 4777, OREGON. Bureau Reclamation, Dpt. Interior, Camp White, Ore. Bids Nov. 27. CD 10/9.

▲ **CALIFORNIA**—State Dpt. P. Wks., 1120 N St., Sacramento,

Ukropina, Polich & Kral, P. O. Box 105, San Gabriel, Calif., CA **$2,423,496**, constr. 1.9 mi. sect. Long Beach Freeway through Lynwood, incl. ramp and interchanges, overcrossing, pumping plant and retaining walls, Lynwood, Los Angeles Co. Bids Nov. 15, awarded Nov. 28. CD 11/19, under LB.

▲ **CALIFORNIA**—State Div. Hys., 120 S. Spring St., Los Angeles,

Oberg Constr. Co. and Oberg Brothers Constr. Co., 401 W. Florence Ave., Inglewood, Calif., LB **$7,201,496**, est. $7,735,000 (7 bidders) grading, paving 3.5 mi. 6- and 8-lane divided freeway on Ventura Freeway, incl. 12 major structures and 10 rein.-con. retaining walls, Los Angeles Co. Bids Nov. 29. CD 10/25.

▲ **CALIFORNIA**—State Div. Hys., 120 S. Spring St., Los Angeles,

Clifford C. Bong, 123 N. 3 Ave., Arcadia, Calif., LB **$1,894,428**, est. $2,100,000 (5 bidders) grading, surf. 9.2 mi. 2-lane highway on new alignment on Sign Rte. 71, incl. two separated 24 ft. traveled ways and 2 parallel rein.-con. structures, Riverside Co. Bids Nov. 29. CD 11/5.

▲ **CALIFORNIA**—State Div. Hys., 1120 N St., Sacramento,

Stolte, Inc., 8451 San Leandro St., Oakland, Calif., LB **$1,129,955**, est. $980,000 (5 bidders) grading, surf. 4.9 mi. Sign Rte. 36 between 1.5 mi. east of Lassen Camp and Mineral, constr. on new and existing alignment, Tehama Co. Bids Nov. 28. CD 11/5.

BUILDINGS—LB & CA

L. T. Johnson Constr. Co., 709 Wall Ave., Ogden, Utah, LB Est. **$400,000**. production PLANT, OGDEN, UTAH. Pacific Iron & Steel Corp., 11633 S. Alameda St., Los Angeles, Calif.

Walker & Florence, 319 E. Champion St., Bellingham, Wash., LB **$916,576** (8 bidders) 2 story, 78-bed HOSPITAL, MOUNT VERNON, WASH. Public Hospital Dist. No. 1, Mount Vernon, Wash. Bids Nov. 27. CD 11/8.

Gavin & Hardy, 4723 Exposition St., Los Angeles, Calif., CA Est. **$100,000**, 20,000 sq. ft. FACTORY and WAREHOUSE, LOS ANGELES, CALIF. Davidson Bros. Manufacturing Co., 3423 S. La Cienega St., Los Angeles, Calif. Bids Nov. 7. CD 11/8.

▲ **Morley Building Co.**, 7700 Sunset Blvd., Los Angeles 46, Calif., LB **$1,410,000**, est. $1,200,000. LIBRARY and CLASSROOM BLDG., Francis Polytechnic High School, 400 W. Washington Blvd., LOS ANGELES, CALIF. Bd. Educ., 1425 S. San Pedro St., Los Angeles, Calif. Bids Nov. 21. CD 11/9.

▲ **Pacific Coast Builders**, 1 South Park St., San Francisco, Calif., CA **$1,190,370**. 89,500 sq. ft. frame, stucco Redwood Junior HIGH SCHOOL, NAPA, CALIF. Napa Union High School Dist., Napa, Calif. Bids Nov. 20. CD 11/27, under LB.

F. P. Lathrop Constr., 806 Hearst Ave., Berkeley, Calif., LB **$129,950** (4 bidders) 1 story, rein.-con. tilt-up constr. FACTORY and OFFICE, OAKLAND, CALIF. Simplex Mfg. Co., c/o Hugh M. O'Neil Co., engr., 610 16 St., Oakland, Calif.

▲ **D & E Corp.**, 8906 W. Olympic Blvd., Beverly Hills, Calif. Owner Builds. **$1,112,000**, 116 frame, stucco DWELLINGS, south of Rosecrans Ave. between Lakewood Blvd. and Downey Ave., PARAMONT, CALIF.

Secrest & Fish, 109 W. Whittier Blvd., Whittier, Calif., CA **$646,408**. reinforced masonry Telegraph Elementary SCHOOL, SANTA FE SPRINGS, CALIF. Little Lake School Dist., 10515 S. Pioneer Blvd., Santa Fe Springs, Calif. Bids Oct. 23. CD 10/29, under LB.

▲ **John H. Deeter**, 1230 17 St., Bakersfield, Calif., CA **$1,147,000**. Cuyama Valley HIGH SCHOOL, SANTA MARIA, CALIF. Santa Maria Union High School Dist., Santa Maria, Calif. Bids Oct. 25. CD 11/2, under LB.

CANADA

HEAVY CONSTRUCTION—BA

N. S., Halifax—BA 12/18—City, A. C. Pettipas, purch. agt., City Hall, furnishing, erecting incinerator equipment 200 tons per day incinerator units, radial brick chimney 175 ft. high, $400,000. Plans deposit $50. Metcalf & Eddy, Statler Bldg., Boston, Mass., U.S.A., engrs.

Ontario—BA 12/18—St. Lawrence Seaway Auth., No. 2 Temporary Bldg., Ottawa, Ont., section dredging, Station 0 plus 00 to Lock No. 1, Welland Ship Canal, Welland. A. G. Murphy, c/o owner, 685 Cathcart St., Montreal, Que., ch. engr.

Ont., Elliot Lake—BA 12/20—The Corporation of the Improvement District of Elliot Lake, c/o Marshall, Macklin & Monaghan, consult. engrs., 1480 Don Mills Rd., Don Mills, activated sludge plant, Elliot Lake Townsite. Over $200,000.

BUILDINGS—BA

▲ **Ont., Toronto**—PLANT OFFICE—BA 12/20—MacLean-Hunter Publishing Co. Ltd., 481 University Ave., 9 story, bsmnt. and penthouses, 100x200 ft. steel frame plant office bldg. with existing buildings addns., alterations. Total est. $4,000,000. Marani & Morris, 1250 Bay St., archts. Wallace, Carruthers & Assocs. Ltd., 92 Yorkville Ave., engrs.

▲ **Ont., London**—PLANT—BA 12/28—Calumet & Hecla of Canada Ltd., 1109 York St., London, superstructure for (1) 1 story, 104x822 ft. fabricating plant (2) engineering, storage and service bldg., 100 acres between Huron St. and proposed Cheapside extension on east side of Clarke Sideroad. Total est. $7,250,000. Smith, Hinchman & Grylls, Inc., 200 Canada Trust Bldg., Windsor, Ont., engr.-archt.

BUILDINGS—SLC

Ont., Toronto—SYNAGOGUE—Temple Sinai, c/o H. J. Pollock, 63 Invermay Ave., soon lets contract synagogue. $500,000. Murray Sklar, 195 Bay St., and S. Devore, 1695 Ave. Rd., archts. CD 4/57

HEAVY CONSTRUCTION—LB & CA

Greenfield Sand & Stone Ltd., R.R. 2, Ayr, Ont., CA, **$188,711** (3 bidders) sanitary and storm sewers at various city locations, GALT, ONT. City, 50 Dickson St., Galt, Ont. Bids Nov. 14, awarded Nov. 22. CD 11/8.

▲ **Pigott Constr. Co. Ltd.**, 1250 Bay St., Toronto, Ont., CA, **$5,904,000** (5 bidders) installing sludge collecting equipment at Humber sewage disposal plant, TORONTO, ONT. Municipality of Metropolitan Toronto, 67 Adelaide St. E., Toronto, Ont. Awarded Nov. 27. CD 11/27, under LB.

▲ **S. McNally & Sons Ltd.**, 1544 The Queensway, Toronto, Ont., CA, **$1,091,000** (4 bidders) approx. 10,328 ft. 54-in. diam. section of East Don trunk sanitary sewers, TORONTO, ONT. Municipality of Metropolitan Toronto, 67 Adelaide St. E., Toronto, Ont. Awarded Nov. 27. CD 11/12, under LB.

▲ **Dominion Bridge Co. Ltd.**, Lachine, Que., LB **$2,503,218**. (3 bidders) superstructure, Pier 14 to 29, Honore Mercier Bridge extension, Lachine Section of St. Lawrence Seaway, QUEBEC. St. Lawrence Seaway Auth., No. 2 Temporary Bldg., Ottawa, Ont. Bids Nov. 27. CD 11/2.

▲ **Dominion Structural Steel Ltd.**, 6894 Clanranald Ave., Montreal, Que., LB **$3,026,962** (2 bidders) St. Louis vertical lift bridge over ship channel, Beauharnois Canal, Soulanges Section of St. Lawrence Seaway; LB **$3,316,184** (2 bidders) Valleyfield vertical lift bridge over ship channel, Beauharnois Canal, Soulanges Section of Seaway, QUEBEC. St. Lawrence Seaway Auth., No. 2, Temporary Bldg., Ottawa, Ont. Bids Nov. 27. CD 11/15.

BUILDINGS—LB & CA

Halverson & Smith, 15 Hillcrest Ave., Truro, N. S., CA, **$587,300**, SCHOOL and AUDITORIUM, CAFETERIA, INDUSTRIAL ARTS and DOMESTIC SCIENCE ROOMS, ONSLOW, N. S., Municipality of Colchester, Lloyd Campbell, warden, Tatamagouche, N. S. Robt. E. Cassidy, 17 Inglis St., Truro, N. S., archt. Awarded Nov. 22. CD 5/4

A. S. Nicholson & Son Ltd., 68 Ontario St., Burlington, Ont. Owner Builds. **$144,600**. 1 story, 90-330 ft., concrete block FACTORY, Queen Elizabeth Highway, BURLINGTON, ONT.

Ellis-Don Ltd., Box 852, London, Ont., CA, Est. **$750,000**. 1 story, 69,000 sq. ft. steel, concrete block, FACTORY and 2 story 42,600 sq. ft., steel, brick, OFFICE, LONDON, ONT. Minnesota Mining & Manufacturing Co. Ltd., Oxford St. E., London, Ont. Bids Nov. 20. CD 11/9.

Camston Ltd., 2916 Bloor St. W., Toronto, Ont., CA Est. **$600,000**. 1 story, 60,000 sq. ft. steel, brick FACTORY, Birchmount Rd., TORONTO, ONT. Burndy Canada Ltd., 381 Greenwood Ave., Toronto, Ont. Crang & Boake, 79 Huntley St., Toronto, Ont., archts. Alex. Tobias & Assocs. Ltd., 194 Wilson Ave., Toronto, Ont., engrs. Awarded Nov. 21.

▲ **Foundation Co. of Canada Ltd.**, 1220 Bay St., Toronto, Ont., CA Est. **$2,500,000**, steel frame OFFICE BLDG., 188 University Ave., TORONTO, ONT. Canadawide Investments, Ltd., 330 Bay St., Toronto, Ont. Awarded Nov. 23. CD 11/16, under LB.

ALASKA

HEAVY CONSTRUCTION—BA

† **S. S. Mullen, Inc.**, P. O. Box 3806 Terminal Annex, Seattle, Wash., LB **$577,590** (4 bidders) stabilization of runway access taxiway shoulders, Eielson Air Force Base; Inv. 57-44, ALASKA. U. S. Eng., Anchorage, Alaska. Bids Nov. 27.

LATIN AMERICA

HEAVY CONSTRUCTION—LB & CA

▲ **COSTA RICA**—Bureau P. Rds., Dept. Commerce, Inter-American Hy., 18 and F Sts. N. W., Wash. 25, D. C., U. S. A.

Foster Constr. Co., San Jose, Costa Rica and **Williams Brothers**, National Bank of Tulsa Bldg., Tulsa, Okla., U. S. A. CA **$2,733,765**. Proj. 75-56-6, approx. 32 mi. highway constr. from Ballast Pit, 25 mi. southeast of Palmar extending southeast to Panama border. Bids Nov. 20. CD 11/23, under LB.

▲ **Westinghouse Air Brake Co.**, box 30, Wilmerding, Pa. and **Constructors Nacional de Tuneles y Carreteras, C. A.**, Edifico Polar Piso 10, Plazae Venezuela, Caracas, D. F., CA Est. **$3,000,000**. signal sys. on Puerto Cabello Barquisimeto Railroad, VENEZUELA. Institute of National Railways, Ministry of Communications, Caracas, Venezuela.

PROPOSED PROJECTS

WATER SUPPLY

▲ **O., Cleveland**—City, Dpt. P. Utilities, Emil J. Crown, dir., City Hall, Zone 14,

Clauge-Westwood Water Main, 20,122 ft. 36 and 42 in. pipe on Clague Rd. from Westwood Ave. to Mastick Rd. and on Westwood Ave. from Clague Rd. to W. 210 St. **$900,000**.

Winchester—Cedar Pumping Station for Water Dpt., at Lyndhurst. **$400,000**.

Pump Bldg. and Pump Equip. at Clague Rd. Filtration Plant; Constr. C-1, general constr. Contr. C-2, plumbing; Contr. C-3, heating and ventilating; Const. C-4, electrical; Contr. C-5, raw water pumping equip.; Contr. C-6, filtered water pumping equip., est. **$2,000,000**. Bids in January. Havens & Emerson, 640 Leader Bldg., Zone 14, consult. engrs., George Hamlin, c/o owner, engr.

▲ **O., Cleveland**—City, Dpt. P. Utilities, Emil J. Crown, dir., City Hall, Zone 14.

SCHEDULED FOR 1957

2 m. g. high service water storage tank in Wickliffe. **$530,000**.

24 and 30 in. water main Brookpark Rd. from Tiedeman to Broadview Rds. **$775,000**.

20 in. water main Fitch Rd. from Butternut Ridge to Bagley Rds. **$500,000**.

20 and 24 in. water main Wilson Mills Rd. from Trebiskey to SOM Center Rd. **$740,000**.

20 in. water main in Pearl Rd. from Bagley to Webster Rd. **$150,000**.

20 in. water main, Detroit Rd. from Columbia to Bassett Rd. **$360,000**.

24 in. water main Willoughby Ridge Rd. from Bishop to Willoughby line and in Rockerfeller Rd. from Willoughby Ridge Rd. to new elevated tank. **$525,000**.

24 in. water main in Euclid Ave. from Chardon Rd. to E. 248 St. **$210,000**.

rehabilitation of Division water plant, engines and pumps. **$1,230,000**.

Kirtland water station electrification. **$1,000,000**.

water mains, Columbus Rd., Willey Ave., Kenilworth Ave. and W. 12 St., 30 in. from Franklin to Clark Aves. **$335,000**. Havens & Emerson, 640 Leader Bldg., Zone 14, consult. engrs.

▲ **O., Cleveland**—City, Dpt. P. Utilities, Emil J. Crown, dir., City Hall, Zone 14.

SCHEDULED FOR 1958

Aurora Rd., 30 in. water main from Northfield to Bartlett Rds. **$185,000**.

Brainard Rd., 20 in. water main from Kinsman to Emery Rds. **$300,000**.

Breckesville Rd., 24 in. water main from Chestnut to Whitewood Rds. **$650,000**.

Broadway, 24 in. water main from Dunham to Libby Rd. **$50,000**.

Franklin Ave., W. 44 St., W. 45 St., Randall Rd. and W. 41 St., clean and reline water mains from Division Ave. Station to Clark Ave. **$55,000**.

Lake Shore Blvd., E. 222 St., Rush Rd. and E. 305 St., install 30 and 24 in. water mains from St. Clair Ave. to Lakeland Blvd. **$1,350,000**.

Lee Rd., Broadway, Rockside Rd., 30, 42 and 48 in. water mains from Harvard Ave. to Dunham Rd. **$1,320,000**.

Ridge Rd., 24 in. water main from Pleasant Valley to Renwood Rds. **$380,000**.

Tillman and Clinton Ave., W. 58 St., clean and reline water main from Division to Lorain Aves. **$60,000**.

Turney Rd., 20 in. water main from Grange Rd. to new 2 m.g. elevated water tank. **$80,000**.

Division Water Filteration Plant imprvs. **$1,540,000**.

Fairmount Water Station-pumps. **$1,560,000**.

Water Intake Crib No. 3, protection. **$185,000**. George W. Hamlin, c/o owner, engr.

▲ **O., Cleveland**—City, Dpt. P. Utilities, Emil J. Crown, dir., City Hall, Zone 14.

SCHEDULED FOR 1959

Brookpark Rd., clean and reline water mains from Tiedeman to Engle Rd. **$125,000**.

Cedar Rd., 20 in. water main from Lander Rd. to Gates Mills Blvd. **$110,000**.

Denison Ave., clean and reline water main from W. 65 St. to Lorain Ave. **$45,000**.

Dunham Rd., 20 in. water main from Rockside to Schreiber Rd. **$160,000**.

Five Points Rd., install 24 in. water main from Engle Rd. to Airport Freeway. **$125,000**.

Granger Rd., 20 in. water main from Meadowbrook to Dunham Rds. **$45,000**.

Jackson Rd., 30 in. water main from Brainard to Lander Rds. **$160,000**.

Solon Rd., 20 in. water main from 1 m. g. Solon tower to Chagrin River Rd. **$400,000**.

Woodhill Rd., Mount Carmel Ave., Woodland Ave., clean and reline water mains from Fairmount Pumping Station to North Moreland Blvd. **$60,000**.

Woodhill Rd., Woodland Ave., E. 65 St. and Outhwaite Ave., clean and reline main from Baldwin Reservoir to E. 55 St. **$110,000**.

Baldwin Water Filtration Plant imprvs. **$1,240,000**.

Bedford-Walton Hills, 1 m. g. water tank. **$290,000**.

Chagrin Falls, 1 m.g. elevated water tank. **$290,000**.

Warrensville Reservoir, 25 m. g. addn. **$2,975,000**. George W. Hamlin, c/o owner, engr.

▲ **O., Warren**—Comrs. Trumbull Co., Court House, water sys. for Holland Twp., would have no tank or pumping sys., to be served by gravity flow from Vienna, $737,-

000; water sys. for Vienna, incl. 100,000 gal. storage Tank Rte. 82, 500 g.p.m. booster pumping station and 200,000 gal. standpipe on Rte. 82 west of Rte. 90, $556,000; water sys. for Mineral Ridge, incl. 100,000 gal. storage reservoir, 200,000 gal. standpipe and pumping station, $610,000. Snyder, McLellan & Assoc., Hillsboro, Ind., consult. engrs. CD 5/10.

▲ **Que., Shawinigan Falls**—Municipal Council, Gaston Hardy, mayor, Shawinigan Falls, water filter plant to increase water delivery, $2,000,000. CD 3/31/52.

Sask., Uranium City—City, Uranium City, water and sewerage systems, $800,000. Underwood, McLellan & Assocs. Ltd., 402 Grain Bldg., Saskatoon, consult. engrs.

SEWERS, WASTE DISPOSAL

▲ **Ala., Selma**—City, City Hall, sewage disposal plant, $1,000,000; repairs and expansion of sewerage sys., $1,000,000. CD 4/4.

▲ **Ill., Charleston**—City, City Hall, sewer lines extensions, imprvs. and sewage treatment plans, $1,600,000. Warren & Van Praag, 253 S. Park St., Decatur, consult. engrs. CD 6/8.

▲ **Ind., Columbia City**—City, City Hall, storm sewer $430,000, sanitary sewer and treatment plant $780,000, incl. 4 lift stations and four regulators. Boyd E. Phelps, Inc., 1000 Washington St., Michigan City, consult. engr. CD 1/22/45.

Ky., Highland Heights (Newport)—Highland Heights, Alexandria Pk., sewerage sys. for city, $650,000. Morlidge & Morlidge, 104 W. 4th St., Cincinnati, O., consult. engrs. A. J. Glaser, city clerk.

▲ **N. J., Jersey City**—City, City Hall, Journal Square, 200 mi. sewers, $1,000,000. Frank G. Manning, Dpt. P. Wks., City Hall, ch. engr.

▲ **N. J., Union City**—City, City Hall, Bergenline Ave., sewage treatment and incineration plant, $1,000,000. Fred Ferries, 5 Garden Hill Rd., Morristown, consult. engr. Peter La Mort, city engr. CD 4/15/46.

▲ **N. C., Fayetteville**—City, bond election Feb. 23, sewage treatment plant, $2,000,000. CD 3/7/46.

▲ **O., Elyria**—City, City Hall, sewage treatment plant changes. Engineers recommend the following:
1. replace existing grit chambers and provide for mechanical removing of grit.
2. provide underwater shredding of screenings.
3. provide for aeration of sewage before primary settling.
4. convert present Imhoff tanks to plain settling tanks.
5. move air compressors and blowers to new location.
6. modernize the final settling tank and replace present sludge removal mechanism.
7. revamp sludge digestion tanks, install modern units, revamp piping.
8. install vacuum filters for sludge drying beds. $2,030,000. Havens & Emerson, 640 Leader Bldg., Cleveland Zone 14, consult. engrs.

O., Warren—Comrs. Trumbull Co., Court House, sewage sys. for Hubbard-Liberty Dist., sanitary sewers, force mains, interceptor sewers, pumping stations, laterals and connections, trunk sewers to carry sewage to connecting lines of city Youngstown, $710,000. Snyder, McLellan & Assoc., Hillsboro, Ind., consult. engrs. CD 11/12.

▲ **Pa., Greenville**—Greenville Sanitary Auth., Greenville, sewerage treatment plant and large capacity interceptor connecting new plant with present sys. $1,400,000. Chester Engineers, 210 E. Parkway, Pittsburgh, consult. engrs. CD 3/21.

▲ **Wis., Milwaukee**—City, City Hall, sewerage program for 1957, $5,500,000. E. A. Schmidt, city engr.

Wis., West Milwaukee—Village, Village Hall, storm sewers S. 44th St. $500,000. Steinhagen & Steinhagen, 2735 W. State St., Milwaukee, Zone 8, consult. engrs.

BRIDGES

▲ **Calif., Long Beach**—Long Beach Bd. Harbor Comrs., 1333 El Embarcadero St., relocating existing pontoon bridge, $1,400,000.

▲ **Conn., Hartford**—Hartford Bridge Auth., 284 Sheldon St.,
South Windsor—embankment for Route 5 westerly to proposed Wolcott Ave. Bridge over Connecticut River Parkway, toll station area, approx. 1,400,000 cu. yds. fill, $1,000,000. De Leuw, Cather & Brill, 202 E. 44 St., New York, N. Y., consult. engrs. CD 7/17.

▲ **Illinois**—Wabash Railroad Co., J. C. Bousfield, ch. engr., 1420 Railway Exchange Bldg., St. Louis 1, Mo. 1,020 ft. railroad bridge consisting of river and approach piers, incl. vertical (310 ft.) lift section on Illinois River, approaches and some 3 mi. railroad line changes in connection with new railroad bridge across river at Valley City, involving removal existing railroad bridges at Valley City and Meredosia, $4,000,000-$5,000,000. Sverdrup & Parcel, Inc., 915 Olive St., St. Louis 1, Mo. consult. engr.

▲ **WISCONSIN**—State Hy. Comn., State Office Bldg., Madison.
Barron Co.—structures, STH 25, So. Co. Line-Barron, $17,600.
Chippewa Co.—structure, grading, ballast, base, bit. road mix surf. 0.15 mi. STH 64, West Co. Line-Bloomer, $56,800.
structure, grading, ballast, base, bit. road mix surf. STH 64, Bloomer-Cornell, $38,100.
Dane Co.—structure, grading, ballast, base, bit. plant mix or b. conc. surf. 0.35 mi. USH 12, Middleton-USH 14, $249,700.
Dodge Co.—structure, grading, ballast, base 7.37 mi. USH 41, East Co. Line-North Co. Line, $810,100.
Douglas Co.—structure, grading, ballast, base, bit. road mix surf. 1 STH 13, Superior-East Co. Line, $106,000.
Dunn Co.—structure, base, misc. USH 12, West Co. Line-Knapp, $3,000.
Fond du Lac Co.—structure, grading, ballast, base 7.67 mi. USH 41, So. Co. Line-STH 175 Interchange, $915,200.
structure, grading, ballast, base 6.76 mi. USH 151, Peebles-Pipe, $547,000.
Jefferson Co.—structure, grading, base, c. conc. surf., curbs and gutters 0.4 mi. STH 26, Main St. Bridge, Jefferson, $400,000.
2 structures, grading, ballast, base 7.1 mi. STH 26 Jefferson-STH 30, $874,100.
Kenosha Co.—structure grading, ballast, base 0.45 mi. STH 158, USH 41-STH 31 Road Separation, $201,000.
structure, grading, ballast, base 0.42 mi. STH 158, C & NW Ry. grade separation on USH 41-STH 31 Road, $204,000.
Manitowoc Co.—structure, grading, base, c. conc. surf. 0.08 mi. STH 57, First St. Bridge, Kiel, $64,000.
structure, grading, ballast, base, c. conc. surf. 3.72 mi. STH 57, So. Co. Line-Millhome-Kiel, $600,000.
structure, grading, ballast, base, c. conc. surf. 8.6 mi. USH 141, So. Co. Line-CTH "C", $792,000.
Milwaukee Co.—structure, grading, base, bit. plant mix or b. conc. surf. 0.51 mi. STH 57, N. Green Bay Ave., Milwaukee, $786,000.
structure, N. Teutonia Ave., Milwaukee, $500,000.
structure, W. Silver Spring Dr., Milwaukee, $250,000.
2 structures, grading, base, surf. 0.65 mi. USH 41, S. 27 St., Milwaukee, $775,000.
Outagamie Co.—structure, grading, ballast, base 2.4 mi. USH 41, So. Co. Line-USH 10, $620,000.
Pierce Co.—structure, grading, base, bit. plant mix or b. conc. surf. 0.05 mi. STH 29, E. Cascade Ave., River Falls, $34,000.
Polk Co.—structure USH 63, So. Co. Line-USH 28, $60,500.
Racine Co.—structure, grading, ballast, base, c. conc. surf., curbs, gutters and SS, 1.15 mi. STH 32, Racine-Tabor $682,000.
Rock Co.—structure, grading, ballast, base 5.6 mi. STH 11, W. Co. Line-Footville, $580,100.
Sauk Co.—structure, grading, ballast, base, RPM surf. 4.73 mi. STH 60, USH 14-USH 12, $322,400.
Trempealeau Co.—structure, grading, ballast, base 10.21 mi. USH 10, Eleva-USH 53, $767,400.
structure, grading, ballast, base, bit. road mix surf. 6.6 mi. STH 121, West Co. Line-STH 93, $166,200.
Walworth Co.—structure, grading, ballast, base, c. conc. surf. 0.7 mi. STH 15, Bardwell R.R. Separation, $245,000.
Washburn Co.—structure, STH 77, Minong-East Co. Line, $55,000.
Washington Co.—structure, grading, ballast, base, bit. plant mix or b. conc. surf. 0.4 mi. STH 60, USH 41, and STH 60 Interchange, $214,000.
structure, grading, ballast, base, bit. plant mix or b. conc. surf. 0.4 mi. STH 144, USH 41-STH 144 Interchange, $239,000.
2 structures, grading, ballast, base 8.5 mi. USH 41, Allenton Interchange, No. Co. Line, $888,000.
Waukesha Co.—structure, grading, ballast, base, bit. plant mix or b. conc. surf. 0.4 mi. USH 41, USH 41, STH 74 Interchange, $241,500.
structure, grading, ballast, base, bit. plant mix or b. conc. surf. 0.4 mi. USH 41, USH 41, CTH "YY" Interchange, $222,000.
Winnebago Co.—structure, grading, ballast, base, c. conc. surf. 0.85 mi. USH 41, USH 41-STH 21 Intersection, $700,000.
structure, grading, ballast, base, c. conc. surf. 1 mi. USH 41, USH 41-STH 110 Intersection, $800,000.
structure, grading, ballast, base 5.7 mi. USH 41, STH 114-No. Co. Line, $2,990,000.

COUNTY EXPRESSWAYS

structure, Menominee River and C.M.St.P. and P.R.R. structure, $1,142,000.
structure, Vliet St. Grade Separation, $263,000.
structure, Lloyd St. Grade Separation, $355,000.
structure 44 St. Expressway, stadium Interchange, $318,000.
structure C. & N. W. Ry. subway, $565,000.
structure, Glendale Ave. Bridge, $290,000.

▲ **QUEBEC**—Province of Quebec, Parliament Bldgs., Quebec City,
Donacona—rein.-con. bridge on River Jacques Cartier on Road No. 2. $2,500,000. CD 12/27/47.

STREETS AND ROADS

▲ **Pa., Pittsburgh**—Bd. Comrs. Allegheny Co., County Office, road wid'n., 1,000 ft. Brownsville Rd. from two-lane to four-lane, Brentwood, $100,000; road wid'n., reconstr. 1 mi., Greensburg Pike, Chalfont Boro, $600,000; road relocation, reconstr. Trafford City Rd., approx. 2¼ mi., Monroeville, $300,000. CD 12/15/43.

▲ **Tex., Liberty**—Liberty County, Court House, road imprvs., Precinct 1, $1,790,000; Precinct 2, $1,364,700; Precinct 3, $2,314,650; Precinct 4, $1,009,100. CD 3/6.

▲ **WASHINGTON**—State Hy. Comn., Olympia,
King Co.—grading, surf., paving bridge, 2 grade separations and overcrossing 6.21 mi. between primary State Hy. 1 and Auburn, part of Echo Lake to North Bend cutoff, $2,250,000. Work to start next year. W. A. Bugge, state hy. dir. CD 2/9/53.

▲ **WISCONSIN**—State Hy. Comn., State Office Bldg., Madison,
Adams Co.—bit. plant mix or b. conc. surf. 19 mi. STH 13, Friendship-No. Co. Line, $420,000.
Barron Co.—bit. plant mix or b. conc. surf. 7 mi. STH 48, Luck-Cumberland, $87,800.

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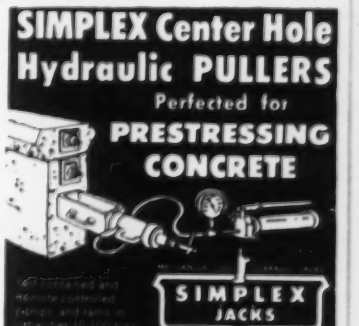

TEMPLETON, KENLY & CO. Broadview, Illinois
2553 Gardner Road

Brown Co.—bit. plant mix or b. conc. surf 6.7 mi. STH 29, $117,700.
base, surf., c. conc. 1.84 mi. STH 54, W. Mason St., Green Bay, $640,000.
ballast, base, c. conc. surf. 6.45 mi. STH 57, Green Bay-Dyckesville, $903,000.
grading, ballast, base 1.8 mi. USH 141, Denmark Relocation, $256,000.
Buffalo Co.—bit. plant mix or b. conc. surf. 2.39 mi. STH 25, Wabash-Nelson, $53,000.
base, bit. plant mix or b. conc. surf. 0.73 mi. STH 35, Lower Main St. City of Alma, $139,200.
bit. plant mix or b. conc. surf. 0.23 mi. STH 35, Marshland Relocation, $8,800.
ballast, base, bit. road mix surf. 2.2 mi. STH 121, STH 88-East Co. Line, $47,800.
Burnett Co.—ballast, base, bit plant mix or b. conc. surf. 4.52 mi. STH 48, STH 87-Grantsburg, $273,200.
Calumet Co.—base, bit. plant mix or b. conc. surf. 1.34 mi. STH 55, USH 151-STH 114, $24,400.
ballast, base, bit. plant mix or b. conc. surf. 6.4 mi. USH 151, So. Co. Line-CTH "C", $240,000.
Chippewa Co.—bit. plant mix or b. conc. surf. 0.44 mi. USH 53, Bloomer-New Auburn, $16,200.
Dane Co.—surf., bit. plant mix or b. conc. surf. 0.48 mi. STH 19, Main St., Sun Prairie, $42,800.
bit. plant mix surf. 3.4 mi. USH 51, So. Co. Line-CTH "A", $73,700.
bit. plant mix or b. conc. surf., base 9.11 mi. USH 51, Stoughton-McFarland, $203,500.
c. conc. 2.58 mi. USH 51, Stoughton-STH 30, $256,000.
ballast, base, bit. plant mix or b. conc. surf., curbs and gutters 1.2 mi. STH 68, Mt. Horeb-Black Earth, $97,300.
c. conc. 4.91 mi. USH 151, Verona-Madison, $506,000.
b. conc. 4.87 mi. USH 151, Madison-North Co. Line, $334,700.
Dunn Co.—railroad cross signal, STH 79, Boyceville Crossing Signal, $9,500.
Eau Claire Co.—ballast, base, bit. plant mix or b. conc. surf. 6.76 mi. STH 27, Osseo-Augusta, $193,000.
Florence Co.—ballast, base, bit. road mix 2.73 mi. STH 101, So. Co. Line-Fern, $158,500.
Fond du Lac Co.—grading USH 45, Fond du Lac-No. Co. Line, $9,000.
base, bit. plant mix or b. conc. surf. 0.86 mi. STH 49, Main St., Waupun, $328,300.
base, bit. plant mix or b. conc. surf. 0.4 mi. USH 151, Main and Fond du Lac Sts. City of Waupun, $131,900.
bit. plant mix or b. conc. surf. 2.2 mi. USH 151, Pipe-North Co. Line, $64,900.
ballast, base, c. conc. surf. 0.69 mi. STH 175, USH 41-Fond du Lac, $92,700.
base, bit. plant mix or b. conc. surf. 0.92 mi. STH 175, Main St., Fond du Lac, $280,000.
Forest Co.—ballast, base, bit road mix surf. 1.24 mi. STH 101, USH 8-No. Co. Line, $69,900.
Grant Co.—bit. plant mix or b. conc. surf. curbs and gutters 0.51 mi. USH 18, Preston-East Co. Line, $30,400.
Green Lake Co.—ballast, base, bit. plant mix or b. conc. surf. 7.42 mi. STH 49, Green Lake Sta.-Berlin, $1,188,100.
railroad crossing signal, STH 49, Green Lake Sta.-Berlin, $25,000.
base, bit. plant mix or b. conc. surf. 0.19 mi. STH 49, Church St., City of Berlin, $45,200.
Iowa Co.—base, bit. plant mix or b. conc. surf. curbs and gutters, 0.14 mi. USH 18, Main St., Village of Ridgeway, $37,700.
bit. plant mix or b. conc. surf. curbs and gutter, 14.38 mi. USH 18, West Co. Line-Dodgeville, $351,-600.
Jackson Co.—bit. plant mix or b. conc. surf. 10.28 mi. USH 10, West Co. Line-Fairchild, $157,000.
Jefferson Co.—railroad crossing signal STH 26, Jefferson-STH 30, $15,400.
railroad crossing signal STH 26, Jefferson-STH 30, $9,900.
Kenosha Co.—ballast base 2.71 mi. STH 158, USH 41-STH 31, $124,000.
base, c. conc. surf. 0.98 mi. N. 30 Ave., City of Kenosha, $275,000.
La Crosse Co.—grading, base, surf. 1.5 mi. Losey Blvd., City of La Crosse, $438,000.
Marathon Co.—base 11.29 mi. STH 29, Abbotsford-STH 97, $356,000.
bit. plant mix or b. conc. surf. 11.29 mi. STH 29, Abbotsford-STH 97, $291,000.
bit. plant mix or b. conc. surf. 11.59 mi. STH 29, STH 97-Marathon, $302,000.
c. conc. surf. 9.1 mi. USH 15, So. Co. Line-Mosinee, $751,000.
ballast, base, bit. plantmix or b. conc. surf. 1 mi. STH 97, Marshfield-CTH "T", $108,000.
Marquette Co.—c. conc. surf. 0.21 mi. USH 51, Westfield-No. Co. Line, $16,000.
Milwaukee Co.—grading, base surf. 1.05 mi. S. 76 St., West Allis, $370,000.
bit. plant mix or b. conc. surf. 1 mi. STH 32, N. Chicago Ave., South Milwaukee, $57,000.
base, bit. plant mix or b. conc. surf. 3 mi. STH 32, College Ave. and Lake Dr. South Milwaukee and Cudahy, $389,000.
base, c. conc. surf. 1.64 mi. STH 100, STH 100, Wauwatosa, $950,000.
base, c. conc. surf. 0.6 mi. W. North Ave., Wauwatosa, $680,000.
base, c. conc. surf. 0.5 mi. STH 100, Intersection STH 100 and STH 15, City of West Allis, $150,000.
grading, base, c. conc. surf. 0.5 mi. STH 100, Intersection STH 100 and STH 59, City of West Allis, $200,000.
grading, base surf. 1.25 mi. Beloit Rd., West Allis, $530,000.
grading, base, surf. 0.53 mi. N. 6 St., Milwaukee, $170,000.
grading, base, surf. 0.28 mi. USH 18, N. 35 St., Milwaukee, $166,000.
grading, base, surf. 1.43 mi. USH 41, W. Appleton Ave., Milwaukee, $520,000.
grading, base surf. 0.26 mi. STH 145, W. Fond du Lac Ave., Milwaukee, $135,000.
grading, base surf. 0.5 mi. STH 190, W. Capitol Dr., Milwaukee, $360,000.
grading, base surf. 3.1 mi. STH 190, W. Capitol Dr., Milwaukee, $1,040,000.
Monroe Co.—bit. plant mix or b. conc. surf. 5.29 mi. STH 71, Wilton-Kendall, $109,000.
ballast, base, SS, bit. plant mix or b. conc. surf. 0.29 mi. STH 71, So. Railroad St. Village of Kendall, $45,300.
ballast, base, bit. plant mix or b. conc. surf. SS, 0.43 mi. STH 71, Main Railroad and Mc Gary Sts., Village of Norwalk, $74,500.
railroad crossing signals USH 12, Superior Ave., Crossing Signals, City of Tomah, $20,000.
Oconto Co.—bit. plant mix or b. conc. surf. 4.6 mi. STH 22, So. Co. Line-Gillett, $85,000.
bit. plant mix or b. conc. surf. 9.7 mi. STH 32, Krakow-Gillett, $160,000.
Oneida Co.—ballast, base, c. conc. surf. 0.86 mi. USH 8, STH 47-Rhinelander, $135,800.
ballast, base, surf. bit. plant mix or b. conc., one structure, 1.23 mi. STH 47, USH 8-Armfield Corners, $525,000.
Outagamie Co.—SS, ballast, base, c. conc. surf. 2.1 mi. STH 96, Appleton-Little Chute, $585,000.
base, c. conc. surf. 0.9 mi. STH 96, Draper and Taylor Sts., Kaukauna, $220,000.
Ozaukee Co.—c. conc. surf. 8 mi. STH 57, Saukville-No. Co. Line, $556,000.
c. conc. surf. 0.55 mi. STH 57, Fredonia Intersection $62,000.
bit. plant mix or b. conc. surf. 0.4 mi. STH 84, Fredonia Intersection, $12,500.
bit. plant mix or b. conc. surf. 1.1 mi. STH 84, Fredonia-Knellsville, $18,800.
grading, ballast, base, bit. plant mix or b. conc. surf. 5.07 mi. STH 60, W. Co. Line-Grafton, $297,000.
bit. plant mix or b. conc. surf. 1.4 mi. STH 143, Cedarburg-Five Corners, $23,800.
Pierce Co.—ballast, base, bit. plant mix or b. conc. surf. 0.2 mi. USH 10, Prescott-Ellworth, $5,900.
bit. plant mix or b. conc. surf. 4.82 mi. USH 10 Ellworth-Plum City, $84,500.
bit. plant mix or b. conc. surf. 12.24 mi. STH 35, Ellsworth-River Falls, $385,000.
Polk Co.—railroad crossing signal USH 8, St. Croix Falls Hill, $10,000.
bit. plant mix or b. conc. surf. 0.6 mi. STH 35, STH 5 in Centuria, $12,000.
Racine Co.—ballast, base, c. conc. surf. 1 mi. STH 38, Racine-STH 31, $262,000.
Rock Co.—base, c. conc. surf. 0.63 mi. USH 51, Janesville-Relocation, $239,800.
railroad crossing STH 11, W. Co. Line-Footville, $13,200.
Rusk Co.—base, bit. plant mix or b. conc. surf. 0.5 mi. USH 8, Weyerhauser-Ladysmith-Glen Fora, $16,800.
base, bit. plant mix or b. conc. surf. 5.01 mi. USH 8, Tony-Glen Flora, $164,000.
bit. plant mix or b. conc. surf. 5.2 mi. STH 27, Ladysmith-No. Co. Line, $65,200.
base, bit. plant mix or b. conc. surf. 0.98 mi. STH 27, N. West 9 St., City of Ladysmith, $20,800.
Sauk Co.—ballast, base, bit. plant mix or b. conc. surf. 6.75 STH 33, L Valle-Reedsburg, $183,700.
railroad crossing signal, STH 23, Main St. Grade Crossing City of Readsburg, $15,400.
Sawyer Co.—bit. plant mix or b. conc. surf. 5.5 mi. STH 27, So. Co. Line-Ojibwa, $69,000.
Shawano Co.—bit. plant mix or b. conc. surf. 5.4 mi. STH 2, Cecil-No. Co. Line, $89,000.
Sheboygan Co.—bit. plant mix or b. conc. surf. 1.47 mi. STH 32, Gidings, Pine, Broadway, and Main Sts., Sheboygan Falls, $110,000.
c. conc. surf. 1 mi. STH 57, So. Co. Line-Waldo, $77,-000.
base, bit. plant mix or b. conc. surf. 0.75 mi. USH 141, N. 15 St., Sheboygan, $175,000.
Taylor Co.—ballas, base, structure, bit. plant mix or b. conc. surf. 4.75 mi. STH 102, STH 13-Rib Lake, $445,000.
Trempealeau Co.—bit. plant mix or b. conc. surf. 1.1 mi. STH 93, Eleva-No. Co. Line, $22,900.
ballast, bit. plant mix or b. conc. surf. 0.48 mi. STH 7, Osseo-Augusta, $15,900.
bit. plant mix or b. conc. surf. 0.6 mi. STH 35, Marshaland Relocation, $15,600.
bit. plant mix or b. conc. surf. base, 2.14 mi. USH 53, No. Co. Line-Osseo, $71,000.
draining, base, bit. plant mix or b. conc. surf. 1.15 mi. STH 93, Diagonal St., Washington St. and Osseo Road, City of Independence, $140,500.
Washburn Co.—bit. plant mix or b. conc. surf. STH 70, West Co. Line-Spooner, $40,900.
Washington Co.—grading, ballast, base 7.6 mi. USH 41, STH 60, Allenton Interchange, $650,000.
base, c. conc. surf. 0.89 mi. USH 45, Fond du Lac Road, Kewaskum, $239,000.
base, c. conc. 0.81 mi. STH 33, Cherry St., West Bend, $220,000.
ballast, base, bit. plant mix or b. conc. surf. 5.10 STH 60, Hartford-STH 175, $324,000.
Waukesha Co.—surf., c. conc. surf. 0.99 mi. STH 74, Main St., Sussex, $205,000.
Waupac Co.—grading 7 mi. USH 45, New London-Clintonville, $60,000.
Waushara Co.—base, bit. plant mix or b. conc. surf. 6.65 mi. STH 21, Red Granite-STH 49, $199,700.
c. conc. surf. 6 mi. USH 51, So. Co. Line-Coloma, $374,700.
Winnebago Co.—base, c. conc. surf. 0.25 mi. STH 175, Main St., Oshkosh, $83,500.
Wood Co.—ballast, base, bit. plant mix or b. conc. surf. 1.8 mi. STH 73, Wisconsin River Ave., Village of Port Edwards, $252,000.
bit. plant mix or b. conc. surf. 0.45 mi. STH 13, So. Co. Line-STH 73, $10,000.
bit. plant mix or b. conc. surf. 1.31 mi. STH 13, So. Co. Line-STH 73, $29,000.
base, bit. plant mix or b. conc. surf. 0.85 mi. STH 97, Central Ave., Marshfield, $112,000.

COUNTY EXPRESSWAYS

East-West Expressway, Hawley Road to 18 St., Milwaukee County, $7,980,000.
expressway, Illinois State Line to Milwaukee County, $7,400,000.
expressway CTH "SS" to Brookfield Road, $1,000,000.
expressway, Madison to CTH "SS", $2,000,000.
expressway, Eau Claire to Hudson, $5,000,000.

AIRPORTS

▲† **Miss., Meridian**—JET TRAINING BASE—Dpt. Navy, The Pentagon, Wash., D. C., plans by John L. Turner & Co., Milner Bldg., Jackson, administrative facilities, incl. personnel structures as barracks, officers' quarters, housing, supply facilities, utilities, U. S. Naval Jet Base. $14,000,000. Maurice H. Connell & Assocs., Inc., 315 N. W. 27 Ave., Miami, Fla., engr. CD 11/10/55.

▲† **O., Dayton**—NUCLEAR REACTOR—Dpt. Air Force, Wright Field, Dayton, 10,000 kw. light water cooled and moderated nuclear reactor to test irradiation on aircraft parts, Wright-Patterson Field. $3,000,-000.

▲ **Okla., Oklahoma City**—AIRPORT—City, City Hall, defeated $4,300,000 bonds Nov. 27, airport extens. CD 10/30.

LATIN AMERICA

Mexico, Los Mochis, Guasave—GRAIN ELEVATORS—Srya. de Agricultura, Mexico City, plans 4 grain elevators, 3 in Los Mochis, and 1 in Guasave. $500,000.

▲ **Mexico, Mexico City**—FACTORY—Henry S. Dabdoud, Xola, 15, Mexico City, plans long distance telephone apparatus factory. $1,200,000.

Mexico, San Gregorio—Sria. de Recursos Hidraulicos, Mexico City, plans irrigation dam. $500,000.

▲ **Peru, Lima**—AIRPORT—Peruvian Corp. of Airports & Commercial Aviation, Lima, plans airport, incl. 2 story terminal, 3,500 meters runway. $9,000,000.

AMERICANS ABROAD

▲ **India**—PLANT—Govt. of India, Delhi, plans Nanqa fertilizer-Heavy water plant. $46,000,000. Vitro Engineering Div., Vitro Corp., 225 4 Ave., New York, N. Y., U. S. A., consult. engr. CD 2/24.

▲ **Iran**—Govt. of Iran, Tehran, plans Karadji Dam and power house providing domestic water for city of Tehran, producing 110 kw of power. $45,000,000. Harza Engineering Co., 20 N. Wacker Dr., Chicago, Ill., U.S.A., consult. engr.

▲ **Italy, Milan**—NUCLEAR REACTOR—Comitato Nazionale per Le Ricerche Nucleari, Milan, plans heavy water type nuclear reactor. Vitro Eng. Div., Vitro Corp. of America, 261 Madison Ave., New York 16, N. Y., U.S.A., consult. engrs.

▲ **Northern Ireland, Londonderry**—PLANT—duPont United Kingdom Ltd., c/o E. I. duPont de Nemours, Inc., duPont & Nemours Bldgs., Wilmington, Del., U. S. A., plans neoprene synthetic rubber plant. $3,000,000.

PUBLIC BUILDINGS

▲ **Ala., Birmingham**—SCHOOL—**City Bd.** Educ., 2015 7th Ave. N., bond election Dec. 18, public school constr. $6,000,000. CD 7/6/54.

▲ **Calif., Bakersfield**—JAIL and COUNTY GARAGE—Bd. Supervs., Kern Co. County Court House, plans by Wright, Metcalf & Parsons, 2323 "E" St. 4 story, bsmnt. 87,350 sq. ft. jail and county garage at Civic Center. $2,595,000.

▲ **Calif., Berkeley**—SERVICE CENTER—Bd. Regents University of California, Administration Bldg., service center, incl. storehouses, commissary mail room, alumni record storage and shops. $1,889,700.

▲ **Calif., Berkeley**—HOSPITAL—University of Calif., c/o Bd. of Regents, Admin. Bldg., 4 story Cowell Memorial Hospital addn. $1,500,000.

▲ **Calif., Clovis**—SCHOOL—Jefferson Union Elementary School Dist., 5013 N. Fowler St., voted bonds, school addn. and new school. $1,000,000. CD 10/9.

▲ **Calif., Freedom**—SCHOOL—Freedom Union Elementary School Dist. c/o Supt., P. O. Box 408, voted bonds Nov. 20, constr. new school bldg and addn. to existing schools. $1,200,000. CD 10/24.

▲ **Calif., Fresno**—SCHOOLS—Fresno City Unified School Dist., c/o Supt. 2348 Mariposa St., plans by William Hastrup, Anglo Bank Bldg., Junior High School, Cedar and Garland Aves., $1,325,000; Junior High School, Hughes and Ashlan Aves., $1,325,000; plans by John P. Miller, 1910 Fresno St., Junior High School, Kings Canyon Rd., $1,125,-000; plans by Allen Lew, Fulton, Fresno Bldg., Junior High School, site adjacent to Edison High School, $800,000. CD 11/9.

Calif., Kerman—SCHOOL—Kerman Union High School Dist. 2545 N. Madera St., bond election Jan. 18, to constr. and equip. Junior High School, $525,000. Harn & Martland, 2016 Merced St., Fresno, archts. CD 6/7.

▲ **Calif., Mount Eden**—SCHOOLS—Mount Eden Elementary School Dist., P.O. Box 142, voted $800,-

000 bonds Nov. 20, 3 new schools and present school addns. $6,800,000.

▲ **Calif., Palo Verde**—SCHOOLS—Palo Verde Unified School Dist., Palo Verde, plans by Harold Gimeno, 1400 N. Sycamore St., Santa Ana, 52,500 sq. ft. Junior and High School, Blythe, $735,000; 42,300 sq. ft. Junior High School, conversion to high school with addn. to existing bldg., Blythe, $549,900; 36,350 sq. ft. Junior High School, Blythe, $472,550.

▲ **Calif., Salinas**—SCHOOLS—Salinas Union High School Dist., 413 W. Alisal St., bond election Jan. 22, new classrooms for high school and classrooms for Alisal Elementary Schools. $2,500,000. CD 11/18/55.

▲ **Calif., San Lorenzo**—SCHOOLS—San Lorenzo Elementary School Dist., c/o Supt., 2nd and Sycamore Sts., voted bonds Nov. 20, 2 new elementary schools and additions to existing schools. $1,500,000. Schmidtz & Hardman & Wong, 1320 University Ave., Berkeley, archts. CD 10/8/52.

Calif., San Pablo—SCHOOL—San Pablo Elementary School Dist., c/o Supt., 2707 Dover St., voted bonds Nov. 6 to finance constr. of new school facilities. $500,000. CD 8/31.

▲ **Calif., Santa Ana**—HOSPITAL—Bd. Supervs. Orange Co., Court House, voted $5,500,000 bonds Nov. 6, 3 story 100 bed main bldg. Orange County hospital. CD 9/13.

▲ **Calif., Santa Ana**—PSYCHIATRIC—Bd. Supervs. Orange Co., Court House, voted $1,750,000 bonds Nov. 6, psychiatric unit. CD 9/13, under Calif., Orange.

Calif., Stockton—HORSE BARNS, etc.—San Joaquin Co., c/o Clerk, Courthouse, horse barns, rest rooms, admin. bldg. at San Joaquin County Fairgrounds. $678,700.

Conn., Allingtown—SCHOOL—Town of West Haven, constr. Allingtown Junior High School. $500,000.

▲ **Conn., Bridgeport**—SCHOOL—Town, Town Hall, North End High School. $2,000,000.

▲ **Conn., Fairfield**—SCHOOLS—Town, Town Hall, plans by Lyons & Mather, 211 State St., Bridgeport, convert Mill Plain Elementary School into High School, 135,000 sq. ft., $3,167,390; West End High School, $2,000,000. CD 3/28.

▲ **Conn., Meriden**—SCHOOL—Town, Town Hall, plans by Willard Wilkins, 945 Asylum Ave., Hartford, East Side High School, East Main St., $2,000,000. Robt. W. Loomis, 32 Maple Ave., Windsor, consult. engr. Henri B. Van Zelm & Assocs., 1007 Farmington Ave., West Hartford, engrs.

▲ **Conn., Monroe**—SCHOOL—Town, Town Hall, plans by Fletcher-Thompson, Inc., consult. engr.-archt., 211 State St., Bridgeport, Junior and Senior High School, Barn Hill Rd., $1,000,000. CD 8/2.

Conn., Norwalk—SCHOOL—Town, Town Hall, addn. to West Rock Junior High School. $500,000.

Conn., South Windsor—SCHOOL—Town, Town hall, plans by Willard Wilkins, 945 Asylum Ave., Hartford, 1 story, masonry, steel, 16 classroom, elementary school, Ellington Rd. $900,000.

Conn., Westbrook—SCHOOL—Town, Town Hall, plans by Fletcher Thompson, Inc., archt.-engr., 211 State St., Hartford. Junior Senior High School, McVeagh Rd. $850,000. CD 3/9/55.

▲† **Idaho, Arco**—ASSEMBLY—TEST BLDG.—Atomic Energy Comn., Idaho Operations Office, Idaho Falls, 51x70 ft. assembly and test bldg., 46 ft. high; 93x111 ft. control and equipment bldg., 16 ft. high; 11x12 ft. guardhouse, 8,000 ft. 13.8 kv transmission line, etc., in Low Power Test Facility at Aircraft Nuclear Propulsion Proj., National Reactor Testing Station. $1,000,000. Bids in December. CD 3/24/49.

Md., Ellicott City—SCHOOL—Howard Co. Bd. Educ., plans by Johannes & Murray, 855 Pershing Dr., Silver Spring, Glenelg Junior-Senior High School. $800,000.

Mass., Acton—SCHOOL—Town, James Kensley, chn. Bldg. Comn., School Dpt., plans by The Architects Collaborative, 63 Brattle St., Cambridge, elementary school, $500,000.

▲ **Mass., Dedham**—SCHOOL—Town, School Bldg. Comn., Supt. Schools, Bryant St., plans by M. A. Dyer Co., 24 School St., Boston, Senior High School, East St., $2,300,000. CD 3/16.

Mich., Detroit—SCHOOL—Detroit Society of Arts & Crafts, Wendell W. Anderson Jr., chn. Drive Fund, plans by Yamasaki, Leinweber & Assoc., 103 West 5th St., Royal Oak, Arts and Crafts School, Kirby east of John R. $600,000.

Mich., Garden City—SCHOOL—City, Bd. Educ., plans by W. T. Anicka, 2300 Washtenaw St., Ann Arbor, 2 story, rein.-con. Garden City High School addn. $800,000. Bids in January. CD 2/28.

Mich., Jackson—SCHOOL—Bd. Educ., Northwest Rural Agricultural School, Jackson, plans by W. T. Anicka, 2300 Washtenaw St., Ann Arbor, high school addn. $500,000. Bids in February. CD 5/4/55.

Mo., Booneville—SCHOOL—Bd. Educ., Booneville, plans by Marshall & Brown, 1016 Baltimore Bldg., Kansas City, Intermediate School. $500,000.

Neb., Chadron—LIBRARY—State Normal Bd., Capitol Bldg., Lincoln, library at Chadron State Teachers College. $570,000.

Neb., Kearney—LIBRARY—State Bd. Educ., Capitol Bldg., Lincoln, library at State Normal College, $600,000. CD 9/21/55.

Neb., Milford—SCHOOL—State Bd. Control, Capitol Bldg., Lincoln, shop bldg. at Milford Trade School. $820,000. CD 10/17/55.

▲ **Neb., Lincoln**—OFFICE—State of Nebraska, Capitol Bldg., auxiliary state office bldg. $3,000,000.

Neb., Lincoln—SCHOOL—Bd. Educ., 720 S. 22 St., plans by Clark & Enersen, 1415 Sharp Bldg., Lincoln, Elementary and Junior High School Bldg. at Lincoln Air Force Base. $750,000. CD 2/15/55.

▲ **Neb., Peru**—ARTS—State Bd. Educ., Capitol Bldg., Lincoln, arts bldg., $800,000; campus Demonstration School, $600,000, at Peru State College.

▲ **N. J., Bergenfield**—HIGH SCHOOL—Bd. Educ., Bergenfield, plans by Lawrence Licht, 19 Knickerbocker Rd., Englewood Senior High School. $3,670,000. CD 1/26/55.

▲ **N. J., Berkeley Heights**—HIGH SCHOOL—Union County Regional High School Sys., Felmer Ave., Springfield, plans by Frederick Elsasser, 2013 Morris Ave., Union Regional High School. $2,500,000.

▲ **N. J., Clark Township**—SCHOOL—Union Co. Regional High School System, Felmer Ave., Springfield, plans by Frederick Elsasser, 2013 Morris Ave., Union, Clark Reg. High school addn., Valley Rd. $1,500,000. CD 11/5/53.

N. J., Long Branch—LIBRARY, etc.—Monmouth College, Cedar Ave., library and science hall on Campus on Cedar Ave. $500,000.

N. J., West New York—HOUSING—West New York Housing Auth., 5814 Park Ave., plans by Ricker & Axt, 6115 Hudson Ave., 6 story, 60-unit housing for the aged. $800,000.

▲ **O., Brookfield**—SCHOOLS—Brookfield School Dist., Brookfield, plans by Baker & Assocs., Newark, Curtis School addn. $1,030,000. CD 11/12.

O., Fairfield—SCHOOL—Fairfield Bd. Educ., Fairfield, plans by Fred J. Winkler, 1st Natl. Bank Bldg., 24 room elementary school on site, $785,000. CD 11/13.

O., Miamisburg—ELECTRIC PLANT—City, Walter I. Staley, mayor, defeated bonds Nov. 6 imprv. municipal electric plant. $590,000-$900,000. CD 5/15.

▲ **O., Oxford**—BUSINESS ADMINISTRATION—Ohio Dpt. P. Wks., 705 Ohio Dpts. Bldg., Columbus, Business Administration School Bldg. for Miami University, $2,000,000.

O., Sandusky—SCHOOL—Perkins Public Schools, Cecil R. Metharry, Executive Head, 3714 S. Campbell St., plans by Harold Parker, 230 E. Market St., schools, addns. and alterations, $950,000. CD 11/12.

▲ **O., Toledo**—ENGINEERING, etc.—University of Toledo, Asa S. Knowles, pres., Bancroft St., engineering bldg., $2,000,000; classroom bldg., $750,000.

▲ **O., Van Wert**—HOSPITAL—Van Wert County Hospital Comn., plans by Dan Carmichael, 5 E. Long St., Columbus, 3 story county hospital, $1,225,000. CD 5/15.

▲ **Okla., Enid**—SCHOOL—Bd. Educ., Enid, voted $1,650,000 bonds Nov. 20, Junior High School. D. A. Smith, archt. CD 10/23.

▲ **Pa., Phila.**—SCHOOLS—Bd. Educ., 21 and Winter Sts., plans by Stickle & Assocs., 134 Narberth Ave., Narberth, elementary school, Fox Chase and Castor Aves., $1,000,000; plans by Harbeson Hough, Livingston & Larson, Architects Bldg., Vocational School, 46 and Market Sts. $1,000,000.

▲ **Tex., Austin**—COURTHOUSE—Travis Co. c/o Courthouse, voted bonds Nov. 13, 3 story courthouse addn. and remodeling. $1,000,000. C. H. Page & Son, Box 396, archts. CD 10/11.

Tex., Eagle Pass—SCHOOL—Eagle Pass Ind. School Dist., Eagle Pass, plans by Phelps & DeWees & Simmons, 342 W. Woodlawn Ave., San Antonio, high school and elementary school addn. $500,000. Beretta, Greenslade, Clark & Collins, Inc., 1927 N. St. Marys St., San Antonio, consult. engr.

Tex., Fort Worth—POLICE STATION—City, City Hall, plans by Wyatt C. Hedrick Co., 1200 T & P Bldg., police station. $500,000. CD 10/11/45.

▲ **Tex., Houston**—COLLEGE—University of Houston, Cullen Blvd., Zone 4, plans by Cato & Austin, 2401 LaBranch St., Fred J. Heyne Building, incl. facilities for College of Business, College of Pharmacy, some general purpose classrooms. $1,400,000. Robert J. Cummins, Bankers Mortgage Bldg., structural engr. Lockwood, Andrews & Newnam, 1010 Waugh Dr., P.O. Box 13332, mech. engrs. CD 3/17/49.

▲ **Tex., Houston**—SCIENCE—University of Houston, Cullen Blvd., Zone 4, plans by MacKie & Kamrath, 2713 Ferndale Pl., Zone 6, addn. Science Bldg., will probably house Dpt. of Chemistry and College of Pharmacy. $3,000,000. Robert J. Cummins, Bankers Mortgage Bldg., structural engr. Lockwood, Andrews & Newnam, 1010 Waugh Dr., P. O. Box 13332, mech. engrs. CD 12/17/53.

▲ **Tex., Houston**—ENGINEERING—University of Houston, Cullen Blvd., Zone 4, plans by Alfred C. Finn, 1005 Bankers Mortgage Bldg., Engineering Bldg., incl. offices, classrooms and laboratories for College of Engineering; classrooms for Dpt. of Mathematics, possibly facilities for Geology Dpt. or Physics Dpt. $4,000,000. Robert J. Cummins, Bankers Mortgage Bldg., structural engr. Lockwood, Andrews & Newnam, 1010 Waugh Dr., P. O. Box 13332, mech. engrs. CD

▲ **Tex., Port Arthur**—HIGH SCHOOL—Port Arthur Independent School Dist., Port Arthur, plans by Caudill, Rowlett, Scott, Neff & Assocs., c/o School Bd., 5-building high school, 63½ acre tract. $3,218,000. CD 10/19/55.

Wash., Elma—SCHOOL—School Dist. 137, addn. to high school. $596,000.

▲ **Wash., Everett**—COLLEGE—School Dist. No. 2, Auditorium Bldg., plans by H. W. Hall & Assoc., Commerce Bldg., Junior College, $1,712,211. Bids next month. CD 11/15/55.

Wash., Silverdale—SCHOOL—School Dist. 401, defeated special levy Nov. 6 to raise $75,000, Junior

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High School. $700,000. Jensen & Mills, 308 S. Tacoma St., Tacoma, archts. CD 4/30.

▲ **Wis., Oshkosh**—SCHOOL—Bd. Educ., Oshkosh, voted $8,500,000 bonds Nov. 14, high school. CD 9/10.

Wis., Wauwatosa—SCHOOL—Bd. Educ., 1732 Wauwatosa Ave., plans by L. Monberg & Assocs., 815 57th St., Kenosha, Jefferson Grade School addn. $600,000. CD 8/29.

† **Alaska, Bethel**—ARMORY—Alaska National Guard, Dpt. Army, Juneau, plans by Foss, Olsen & Sands, Juneau, armory. $749,000.

† **Alaska, Nome**—ARMORY—Alaska National Guard, Dpt. Army, Juneau, plans by Foss, Olsen & Sands, Juneau, armory. $800,000.

▲ **N. W. T., Yellowknife**—SCHOOL, etc.—Dpt. Northern Affairs & National Resources, Vimy Bldg., Ottawa, Ont., plans by Diamond, Dupuis & Dunn, Raleigh Bldg., Edmonton, Alta., rein.-con., masonry non-denominational school and hostel, $1,250,000-$1,500,000.

▲ **Ont., Kingston**—MILITARY COLLEGE—Defence Constr. (1961), Ltd., 56 Lyon St., Ottawa, plans by Mathers & Haldenby, 15 St. Mary St., Toronto, library and academic bldg. Royal Military College, $1,300,000.

Que., Montreal—POST OFFICE—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., plans by Guy St. Aubin Mongenais, 6555 Cote des Neiges Rd., Post Office Station "O", 1495 De l'Eglise, St. Laurent, Montreal suburb. $500,000. CD 2/3.

▲ **Que., Montreal**—SCHOOLS—Montreal Catholic School Comn., 117 St. Catherine St. E., high school, Kensington Ave. near Fielding St., $1,500,000; high school, Bellechasse St. between 20 and 21 Aves., Rosemount, $1,500,000.

COMMERCIAL BUILDINGS

▲ **Calif., Carmel**—SKYTEL—E. M. Beecher & Assoc., La Loma Terrace, 305-unit 5 story, skytel, with swimming pool and roof heliport, $4,500,000.

▲ **Calif., Joshua Tree**—HOUSING SUBDIVISION—Al Anderson, Yucca Valley, plans by Joseph H. Freeman, P. O. Box 489, Yucca Valley, housing subdivision, Tract 4856, Airway Ave. and Yucca Trail, $1,630,-000.

Calif., Los Angeles—COLLEGE DORMITORY, etc.—Mount St. Marys College, 21001 S. Chalon Rd., 6 story college dormitory and dining facilities, $700,000.

▲ **Calif., Marysville**—MOTEL, etc.—Runnymede Hotels, Inc., 309 E. 12th St., 60 unit motel, 10 apartment units, swimming pool, golf course, dining room and cocktail lounge and riding academy, 400 acre site along Oroville Hy. $1,500,000.

▲ **Calif., Muscoy**—HOUSING SUBDIVISION—Charles A. Older & Sons, 3332 Olympic Blvd., Los Angeles, housing subdivision, Tract 5515, Portola St. and June St. $4,400,000. James N. Hicks, Fisher Bldg., Redlands, consult. engr.

▲ **Calif., Pioneertown**—HOUSING SUBDIVISION—Desert Lands, Inc., 324 First Trust Bldg., Pasadena, housing subdivision, Tract 5008. $1,740,000. Kemmerer Eng. Co., 145 N. Painter Ave., Whittier, consult. engr.

▲ **Calif., Rialto**—HOUSING SUBDIVISION—John Slunka, 6284 Spruce Ave., housing subdivision, Tract 5342, Bonnert and Larch Aves., $1,730,000. Johnson & Lockwood, 132 E. Foothill Blvd., Rialto, consult. engrs.

▲ **Calif., Sacramento**—SHOPPING CENTER—Joseph Blumenfield, 70 Eddy St., San Francisco, plans by Wm. David & Assocs., 988 Market St., San Francisco, South Gate Shopping Center, incl. supermarket, department store, variety store, drug store and various other stores, $4,500,000.

▲ **Calif., Sacramento**—FEDERAL OFFICE—General Service Admin., P. Bldg. Serv., 701 "K" St., lease-purchase project, federal office bldg., Capitol Ave. between N. 6 and 7 Sts. $10,000,000. CD 5/28, under Public Buildings.

▲ **Calif., San Francisco**—FEDERAL OFFICE—General Services Admin., P. Bldg. Serv., 49 Fourth St., San Francisco, lease-purchase project, federal office bldg., vicinity Polk and Golden Gate Ave. $45,000,000. CD 3/8, under Public Buildings.

Calif., San Francisco—MOTEL, etc.—Charles Schonfeld, 2283 Clay St., 7 story, 105 unit motel and 3 story garage, Van Ness and Filbert Sts. $750,000.

Calif., San Pedro—DWELLINGS—McDonald Bros., 2639 La Cienega St., Los Angeles, plans by Robert G. Muncaster, 75 Malaga Cove Plaza, Palos Verdes, 20 frame, stucco, wood siding and masonry veneer dwellings, $640,000.

▲ **Calif., Sunnyvale**—SHOPPING CENTER—Lester Jinkerson, 2891 Hillside St., San Carlos, shopping center on Hartman Ranch Property, $5,000,000. CD 5/16.

▲ **Calif., Yucca Valley**—HOUSING SUBDIVISION—Earl Flemming, Palmdale, housing subdivision, Tract 5511, Old Woman Springs Rd. and "C" St., $1,080,-000. Joseph H. Freeman, P. O. Box 489, Yucca Valley, consult. engr.

▲ **Conn., East Hartford**—HOUSES—East Hartford Heights, Inc., Forbes St., 200 houses, East Hartford Heights, Forbes St., $2,998,000.

▲ **Conn., Fairfield**—SHOPPING CENTERS—Max Fried, et als., 219 Jackman Ave., Bridgeport, two shopping centers, $2,000,000.

▲ **Conn., Hamden**—HOUSES—Julius Meshberg, 22 Woolsley Ave., Trumbull, 300 houses, Gaylord Village, Gaylord Mountain Rd. $3,000,000.

▲ **Del., Wilmington**—HOME—Peninsula Conference of The Methodist Church, 6th and Washington Sts., plans by Dollar Bonner & Blake, 1103 Jefferson St., 1 story, brick Home for the Aged, $1,000,000.

▲ **Fla., Cocoa**—SHOPPING CENTER—Orlando Farming Corp., c/o B. Tarlow, mgr., Box 365, Plymouth, plans by Broleman & Rapp, 1216 E. Colonial Dr., Orlando, Island Plaza Shopping Center, 225 sq. ft. shopping space, 34-acre, 3,000 car parking, Merritt Island. $4,000,000.

Kan., Atchison—DORMITORY—St. Benedict's College, Atchison, 4 story, masonry men's dormitory. $500,-000.

▲ **Mass., Boston**—APARTMENT BLDGS., etc.—Charles River Park, Inc., c/o Jerome E. Rappaport, atty., 18 Tremont St., Title I, apartment bldgs., commercial center, $30,000,000.

▲ **Mass., Methuen**—HOSPITAL—Bon Secours Hospital, c/o R. D. Diocese of Boston, Chancery Office, 1 Lake St., Brighton, plans by Curtin & Riley, 45 Newbury St., Boston, hospital addn., 100 beds, chronic hospital. $1,000,000.

▲ **Mass., Raynham**—SHOPPING CENTER—Jordan Marsh Co., 450 Washington St., Boston, plans by John Graham & Co., 444 Fifth Ave., New York, N. Y., shopping center, Rte. 44, Fall River Expressway and Rte. 28, $50,000,000.

Mo., West Plains—HOSPITAL—West Plains Memorial Hospital Assoc., West Plains, plans by Hewitt & Royer, 3619 Broadway, Kansas City, Mo., rein.-con., brick hospital. $600,000. Bids about Jan. 1. CD 7/10/52.

▲ **N. J., Camden**—SHOPPING CENTER—H. Shanedling Sons Corp., 2025 Nicollet Ave., Minneapolis, Minn., plans by Milosevich & Trautwein, 176 Graceland Blvd., Columbus, O., shopping center. $5,000,000. CD 6/22.

▲ **N. J., West Orange**—INSTITUTION—Jewish Community Foundation of Essex Co., 30 Clinton Ave., Newark, plans by Kelley & Gruzen, 60 Park Place, Newark, institution for chronic ill and aged, Pleasant Valley Way. $3,000,000.

N. Y., New York—INSTITUTION—Richard & Lawrence Zirinsky, 383 Pearl St., Brooklyn, private mental institution, 420 East 76 St. $700,000. Robert E. Levien, 29-46 Northern Blvd., Long Island City, engr.

▲ **N. Y., New York**—APARTMENT—Syndicate, c/o Benjamin H. Whinston, archt., 780 Third Ave., 17 story apartment, Bleeker St. from West 10 to Charles Sts., $1,000,000.

▲ **N. Y., New York**—MEDICAL LIBRARY—Yeshiva University, 270 Park Ave., plans by Kelly & Gruzen, 80 Fifth Ave., medical library, at Albert Einstein College of Medicine, Eastchester Rd. and Morris Park Ave., Bronx Boro. $1,000,000. CD 8/14/52.

▲ **O., Dayton**—RESIDENCE—Miami Valley Hospital, 1 Wyoming St., plans by Lorenz & Williams, 2600 Far Hills St., 10 story, 44x226 ft. School of Nursing and Hospital Residence. $2,500,000.

▲ **O., McDonald**—HOMES—Community Constr. Co., Joseph W. Rogers, pres., 932 N. State St., Girard, 400-1,000 homes, Weathersford Twp., near here. $5,-000,000.

▲ **O., McDonald**—HOUSING—Tad Fithian Agency, Inc., 3320 Market St., Youngstown, 150 homes (housing) in new plat. $1,500,000. Constr. in spring 1957.

▲ **Pa., Phila.**—ACADEMY—Academy of Music Corp., Broad and Locust Sts., plans by Philip Johnson, 219 E. 44th St., New York, N. Y., and Sidney E. Martin, 117 S. 17th St., Phila., renovation and modernization of Academy of Music. $1,500,000. CD 3/7.

▲ **Pa., Phila.**—HOSPITAL—Doctors Hospital, 17 and Summer Sts., hospital addns., alterations. $2,500,-000.

▲ **Pa., Pittsburgh**—SHOPPING CENTER—South Hills Shoppers City, Inc., 383 S. 3 St., Columbus, O., 1 story, brick, steel, 326,000 sq. ft. shopping center, Pleasant Hills. $2,000,000.

▲ **Tex., Abilene**—COCKRELL BLDG.—E. E. Cockrell, 425 Victoria St., plans by Wm. M. Collier, Jr., Fulwiler Bldg., 8 story, bsmt., penthouse, steel, masonry Cockrell Bldg. $1,200,000.

▲ **Tex., Corpus Christi**—UNIVERSITY BUILDINGS—University of Corpus Christi, Dr. W. A. Miller, pres., Corpus Christi, plans by Harland Bartholomew & Assocs., Designers, 317 N. 11 St., St. Louis, Mo.
auditorium, $500,000.
Classrooms Bldg. No. 1, $400,000.
Classrooms Bldg. No. 2, $400,000.
Classrooms Bldg. No. 3, $400,000.
Classrooms Bldg. No. 4, $400,000.
Classrooms Bldg. No. 5, $400,000.
Dormitory No. 1 for men, $400,000.
Dormitory No. 2 for men, $400,000.
Dormitory No. 3 for men, $400,000.
Dormitory No. 4 for men, $400,000.
Dormitory No. 1 for women, $600,000.
Dormitory No. 2 for women, $600,000.
Dormitory No. 3 for women, $600,000.
Dormitory No. 4 for women, $600,000.
Dormitory No. 1 for married students, $350,000.
Dormitory No. 2 for married students, $350,000.
Dormitory No. 3 for married students, $350,000.
Dormitory No. 4 for married students, $350,000.
Dormitory No. 5 for married students, $350,000.
Dormitory No. 6 for married students, $350,000.
Dormitory No. 7 for married students, $350,000.
fine arts center-theater, $1,275,000.
infirmary, $350,000.
library, $375,000.
maintenance shop-center, $175,000.
outdoor theatre, $400,000.
power and heating unit, $500,000.
student union bldg., $375,000.
athletic field house, $250,000.
stadium; $650,000.
swimming pools (2) $200,000.
water sys. $100,000.
sanitary sewers, $90,000.
school grounds area sites development, earthwork, grading, $75,000.
drainage, $90,000.
school plant area paving, $150,000. Foregoing is part of 16-year expansion program. CD 6/1/53.

▲ **Tex., Dallas**—CHURCH—Highland Park Methodist Church, 3300 Mockingbird Lane, further enlargement of Methodist Church in Highland Park. $3,000,000.

▲ **Tex., Fort Worth**—COLLEGE BUILDINGS—Texas Wesleyan College, Poly Heights, plans by Wyatt C. Hedrick, archt.-consult. engr., T & P Passenger Bldg., No. 1 classrooms bldg. $950,000; No. 2 classrooms bldg. $1,000,000; chemistry, $775,000.

▲ **Tex., Houston**—SHOPPING CENTER—M. Louis Bernell, 1405 S. Post Oak St., will not construct 80,000 sq. ft. masonry shopping center, off 11400 Blk. Chocolate Bayou Rd. $1,000,000. Project abandoned. CD 4/12.

▲ **Tex., Houston**—DORMITORY, etc.—St. Thomas University of Houston, 3812 Montrose Blvd., plans by Bolton & Barnstone, 811 Lovett St., 2 story dormitory, $500,000; cafeteria and student center, $500,000. CD 7/13/51.

▲ **Tex., Longview**—HOSPITAL—Gregg Memorial Hospital, Longview, hospital expansion, $1,000,000.

Tex., Odessa—PETROLEUM—Houston Smith Constr. Co., 109 S. Grandview St., plans by J. N. McCammon, 112 Meadows Bldg., Dallas, 5 story petroleum bldg. $750,000.

▲ **Wash., Bellevue**—THEATER etc.—Sterling Theaters Co., Palomar Bldg., Seattle 1; plans by B. M. Pritecal, Palomar Bldg., Seattle 1, theater and recreation center. $1,000,000. CD 11/30/55.

▲ **Wash., Spokane**—CLUB—Young Men's Christian Assn., W 827 First St., club bldg. $2,000,000.

▲ **Ont., Galt**—HOUSING—John A. Bailey Developments Ltd., 727 Bayview Ave., Toronto, project cancelled, housing subdivision, incl. 400 homes, McCloskey Subdivision, $8,000,000. CD 7/24.

INDUSTRIAL BUILDINGS

Calif., San Francisco—PLANT—Ray Oil Burner Co., 1301 San Jose Ave., constr. industrial plant, San Jose Ave. and Rausseau St. W., off street parking facilities, $500,000.

▲ **Ill., Monsanto (Br. East St. Louis)**—FACILITIES—Monsanto Chemical Co., 1700 S. 2 St., St. Louis 4, Mo., addnl. facilities for production of phenol, incl. two buildings and considerable open-type constr., tanks, piping, etc. $2,000,000.

▲ **Minn., Fergus Falls**—STEAM PLANT—Otter Tail Power Co., C. G. Wright, pres., Fergus Falls, Hoot Lake Steam Plant addn. $10,000,000. Burns & Roe, Inc., 233 Broadway, New York, N. Y., consult. engr. Constr. in Spring. CD 8/29.

▲ **Mo., North Kansas City**—PLANT—Chemagro Corp., c/o Neville, Sharp & Simon, archts., 25 E. 12 St., Kansas City, Mo., AGR chemical plant, incl. laboratory, warehouse, office formulation on 25 acre site. $2,000,000.

O., Canton—LABORATORY—Timken Roller Bearing Co., 1835 Dueber St., S. W., Canton, 2 story, 11,800 sq. ft. with exten. 1 story wing metallurgical research laboratory, Harrison Ave. S. W. $500,000.

▲ **Pa., Center Square**—PLANT—Remington Rand, Univac Div., Sperry Rand Corp., 19 St. and Allegheny Ave., Phila., 2 story, 200,000 sq. ft. research and mfg. plant and parking area. $5,000,000.

UNCLASSIFIED

Calif., Ontario—FIRE SUB-STATIONS—City Council, City Hall, voted bonds for fire sub-stations, alarm sys. $600,000.

Calif., Santa Monica—RECREATION—PARKING STRIP, etc.—City, City Hall, plans by Welton, Becket & Assocs., 5657 Wilshire Blvd., Los Angeles, recreation-parking strip, along beach front, west of prominade, between Municipal and Ocean Park Piers, 1,582 cars $560,000. CD 11/5/44.

▲ **Conn., Greenwich**—PARKING FACILITIES—Town, Town Hall, off street parking facilities. $2,000,000. CD 6/6.

Conn., Stamford—BEACH UTILITY—City, City Hall, plans by Thomas H. Yardley, Newfield Ave., R.F.D. No 3, beach utility bldg., sea wall, Promenade Park improv., Cummings Park and Cummings Park Beach, $675,000. Brown & Blauvelt, 468 Fourth Ave., New York, N. Y., consult. engrs. CD 10/15.

Mass., Boston—PARKING LOT—City, Mayor's Office, City Hall, parking lot between Butler St. and M.T.A. Station, Dorchester. $500,000. Land owned by M.D.C.

▲ **Minn., Minneapolis**—STADIUM, etc.—University of Minnesota, J. L. Morrill, pres., I. Armstrong, Dir. of Athletics, 404 Admin. Bldg., remodel Memorial Stadium, $2,195,000; constr. sports bldg., $3,300,000.

Bids—Low Bids—Contracts—Second Section

NEW ENGLAND

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

December 19 Maine

STREETS AND ROADS

December 18 Massachusetts

† **Me., Limestone**—FUELING FACILITIES—BA 12/19—U. S. Eng., 150 Causeway St., Boston, Mass., aircraft fueling facilities, Loring Air Force Base, ENG-19-016-57-99. $700,000-$800,000. Plans deposit $10. Extended date. Hayden, Harding & Buchanan, 1340 Soldiers Field Rd., Brighton, Mass., engrs. CD 11/9.

▲† **Massachusetts**—BA 12/28—U. S. Eng., 111 E. 16 St., New York 3, N. Y., North Adams Flood Control Proj., Unit No. 6, Braytonville, North Adams, CIVENG-30-075-57-12. $4,000,000-$4,500,000. Plans deposit $50. CD 11/29.

† **N. H., Portsmouth**—TARGET and INTELLIGENCE BLDGS.—BA 1/4—U. S. Eng., 150 Causeway St., Boston, Mass., target and intelligence bldgs., Air Force Base Site 1 and 2. $300,000-$400,000. Utility Eng. Corp., 359 Boylston St., Boston, Mass., engrs. CD 9/13/51.

† **Me., Winter Harbor**—ANTENNA SYSTEMS—BA 1/9—Dist. P. Wks. Office, IND, 495 Summer St., Boston, Mass., rehabilitation of rhombic antenna sys., Naval Radio Station, NBy 6804, Spec. 6804/56. Plans deposit $10.

† **Mass., Falmouth**—CLUB—BA On Or About 1/9—U. S. Eng., 150 Causeway St., Boston, Zone 14, officers' club, Otis Air Force Base, ENG-19-016-57-128. $275,000-$325,000. Plans deposit $10. CD 8/21.

† **Mass., Weymouth**—EROSION CONTROL—BA 1/11—Dist. P. Wks. Office, IND, 495 Summer St., Boston, Zone 10, obstruction removal and erosion control, Naval Air Station, South Weymouth, NBy 6782, Spec. 6782/56. Plans deposit $10. CD 9/13/51.

† **Mass., Falmouth**—DINING HALL—BA On Or About 1/17—U. S. Eng., 150 Causeway St., Boston, Zone 14, dining hall facility, Otis Air Force Base, ENG-19-016-57-133. $275,000-$325,000. Plans deposit $10. CD 8/21.

BUILDINGS—BA

Conn., Southington—SCHOOL—BA 12/20—Town, School Bldg. Comn., Southington, Marion Ave. School. $400,000. Plans deposit $50. Louis R. Fucito, 37 Hillside Ave., Waterbury, archt. CD 12/3, under LB.

HEAVY CONSTRUCTION—LB & CA

▲† **E. & E. J. Pfotzer**, Hays Rd. and Shellpot Creek, Edge Moor, Wilmington, Del., CA $1,663,465, modification East Barre Dam, Winooski River Basin, East Barre, ENG-30-075-58-8, VERMONT. U. S. Eng., 111 E. 16 St., New York 3, N. Y. Bids Nov. 7. CD 11/9, under LB.

† **Royal Contg. Co.**, 1114 Avenue Y, Brooklyn, N. Y. CA $168,000, est. $170,000, rein.-con. substructures and erecting 2 AB-259 towers, etc., IFB 36-600-57-107, Olmstead Air Force Base, MIDDLETOWN, VT. Procurement Div., Directorate Procurement & Production, Middletown Air Material Area, Olmstead AFB, Middletown, Vt.

† **B. Perini & Sons, Inc.**, 73 Montwaite Ave., Framingham, Mass. LB $108,300, est. $100,000. Lot No. 1, borings to determine elevation of rock, various locations, CIVENG-19-016-57-48, MASSACHUSETTS and MAINE. U. S. Eng., 150 Causeway St., Boston, Mass.; **Arundel Corp.**, Pier 2, Baltimore, Md. LB $54,750, est. $50,000. Lot No. 2 (Massachusetts and Maine).

M. **DeMatteo Constr. Co.**, 200 Hancock St., Quincy, Mass. LB $585,643, est. $540,000. Proj. 247, flood control Proj. 4, Revere, Malden and Everett, MASSACHUSETTS. Commonwealth of Mass., Metropolitan Dist. Comn., Constr. Div., 20 Somerset St., Boston, Mass. Bids Nov. 29. CD 11/13.

Wexler Constr. Co., 118 Needham St., Newton, Mass. CA Approx. $600,000: restaurants along Massachusetts Turnpike, Framingham and Natick, two at Charlton, MASSACHUSETTS. Massachusetts Turnpike Auth., 80 Boylston St., Boston, Mass. Howard Johnson Co., 89 Beale St., Wollaston, Mass., lessee. CD 8/11/54, under Streets and Roads;
Interstate Constr. Co., P.O. Box 287, Beverly, Mass. CA Approx. $200,000. two restaurants at Ludlow (Massachusetts).

† **B & A Elevator Co., Inc.**, 25 Irvington St., Boston, Mass. LB $140,790, est. $152,000. freight elevator work, Army Base, Wharf and Pier Sheds, South Boston, ENG-19-016-57-69, BOSTON, MASS. U. S. Eng., 150 Causeway St., Boston, Mass. Bids Nov. 30. CD 11/2.

† **S. Volpe & Co., Inc.**, 185 Devonshire St., Boston, Mass. LB $287,195, est. $349,000. constr. railroad tracks Army Base Pier Sheds, ENG-19-016-57-70, South Boston, BOSTON, MASS. U. S. Eng., 150 Causeway St., Boston, Mass. Bids Nov. 30. CD 11/2.

▲† **S. Volpe & Co., Inc.**, 185 Devonshire St., Boston, Mass. CA $2,403,500, est. $2,504,211. airmen's dormitories, Otis Air Force Base, ENG-19-016-57-96, FALMOUTH, MASS. U. S. Eng., 150 Causeway St., Boston, Mass. Cram & Ferguson, 248 Boylston St., Boston, Mass., archts. CD 11/29, under LB.

Conti & Donahue, 239 Commercial St., Lynn, Mass. CA $517,890, est. $500,000. M-711 Contr. 2, fire protection State Hospital, MEDFIELD, MASS. State, Dpt. Mental Health, c/o Div. Bldg. Constr., 38 Chauncy St., Boston, Mass. CD 11/13, under LB.

RHODE ISLAND—State R. I. & Prov. Plants, Div. Purchase, State House, Providence,

General Eng. & Contg. Co., 12 Stukely St., Providence, R. I. LB $553,792, est. $555,000, substructure of Pawtucket Bridge No. 550, Contr. 1-RI Contr. 5654, FA Proj. 1-01 (9), Pawtucket, Providence Co. Bids Nov. 21. CD 11/13.

▲ **RHODE ISLAND**—State R. I. & Providence Plants, Dpt. Admin., Joseph L. Byron, state purch. agt., 125 State House, Providence, Zone 2,

Harris Structural Steel Co., 419 4th Ave., New York, N. Y., LB $2,773,792, superstructure for 5-span 700 ft. deck girder bridge, 109 ft. wide, incl. concrete deck slab, structural railing and highway pavement, R. I. Contr. 5655, F.A. Proj. 1-0. (10), Pawtucket Bridge No. 550, Contr. 2, Pawtucket, Providence Co. Bids Dec. 5. CD 11/7.

BUILDINGS—LB & CA

Charles J. Fiske, 76 River St., Woodstock, Vt., CA $699,876. HIGH SCHOOL addns., alterations, HANOVER, N. H. Town, c/o Supt. Schools, Lebanon St., Hanover, N. H. Bids Nov. 14. CD 11/20, under LB.

Morton C. Tuttle Co., Park Square Bldg., Boston, Mass., CA Approx. $125,000. FACTORY addn., SPRINGFIELD, VT. Jones & Lamson Machine Co., 160 Clinton St., Springfield, Vt.

MIDDLE ATLANTIC

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

December 20 Pennsylvania

STREETS AND ROADS

December 18 Maryland December 20 Pennsylvania

† **N. Y., Brooklyn**—BUILDING REPAIRS—BA 12/19—Pub. Wks. Office, New York Naval Shipyard, Bldg. 77, constr. Bldg. No. 30, repairs to gutter, New York Naval Shipyard, NBy 8141, Spec. 8141/56.

† **New York**—BA On Or About 1/3—U. S. Eng., 111 E. 16 St., New York, Zone 3, Tuscarora River bank protection, Addison, CIVENG-30-075-57-38, $40,000-$50,000. Plans deposit $5.

BUILDINGS—BA

N. Y., Bellmore—SCHOOL—BA 12/17—Bd. Educ., Central High School Dist. No. 3, Town of Hempstead, Wellington C. Mepham High School, Camp Ave., Bellmore, Junior High School, Mitchell St. and Howard Place. Plans deposit $50 general, $25 trades. Extended date, Frederick P. Wiedersum Assocs., 85 W. Hawthorne Ave., Valley Stream, archts.-engrs. CD 11/15.

Md., Baltimore—SCHOOL—BA 12/19—City, Bureau Bldg. Constr., 410 Municipal Bldg., Zone 2, 2nd addn. brick, concrete, steel, concrete block Fallstaff Elementary School. $500,000. Plans deposit $50, Wrenn, Lewis & Jencks, 113 W. Mulberry St., Zone 1, archts. CD 11/9/54.

▲ **N. J., Fort Monmouth**—HOUSING—BA 12/20—U. S. Eng., 111 E. 16 St., New York 3, N. Y., construct and finance 120-units of Capehart Housing, ENG-30-075-57-1. Bids 10/25 rejected. LB $1,555,000. CD 10/30, under LB.

▲ **N. Y., Levittown**—SCHOOL—BA 12/20—Bd. Educ., Union Free School Dist. No. 5, town of Hempstead, Levittown Memorial High School, Abbey Lane, Levittown, general constr., heating and ventilating, plumbing and sanitary, electrical work for Dauerenheim School, Southern State Parkway, Wantagh Ave.; Jerusalem Ave., and Wantagh State Parkway; Pintail Lane School, Woodcock Lane, Pintail Lane, Orchid Rd. and Heron Lane. Plans deposit $50 for general constr., $25 trades, Frederic P. Wiedersum Assocs., 85 W. Hawthorne Ave., Valley Stream, archts.

N. Y., Brockport—DORMITORY—BA 12/27—Dormitory Auth., 55 Grant Ave., Albany, Zone 6, general constr., plumbing and drainage work, electrical wiring and fixtures, heating and ventilating for Dormitory Unit "A", State Teachers College. Plans deposit $30, Waasdorp & Northrup, 740 East Ave., Rochester, Zone 7, archts.

Pa., Harrisburg—OFFICE FACILITIES—BA 1/2—General State Auth., 18 and Herr Sts., office facilities at Dpt. Property & Supplies for Bureau of Standards, Clayton J. Lappley, Riverview Manor Apt., Harrisburg, archt.

N. J., East Orange—DORMITORY GROUP—BA 1/15—Upsala College, East Orange, dormitory group, Proj. N.J 28-CH-6.

HEAVY CONSTRUCTION—LB & CA

▲ **American Bridge Div., United States Steel Corp.**, 525 Wm. Penn Pl., Pittsburgh, Pa. CA Approx. $5,800,000. superstructure of bridge over Arthur Kill between Elizabeth, N. J. and Arlington, Staten Island, N. Y., NEW YORK and NEW JERSEY. Baltimore & Ohio R.R.Co., K. J. Wagoner, ch. engr., Charles and Baltimore Sts., Baltimore, Md. CD 9/10, under LB.

▲ **NEW YORK**—John W. Johnson, supt., State Dpt. Pub. Wks., The Gov. Alfred E. Smith State Office Bldg., Albany,

N. Y.—**Johnson, Drake & Piper, Inc.**, 86 Trinity Pl., New York 6, N. Y., LB $3,538,512, Est. $3,750,000 (4 bidders) constr. 0.21 mi. elevated portion of State Thruway's Niagara Sect. and 0.11 mi. of access ramps between Washington and Franklin Sts. in Buffalo, Erie Co.

N. Y.—**Johnson, Drake & Piper, Inc.**, 86 Trinity Pl., New York 6, N. Y., LB $7,295,718, Est. $7,359,000 (2 bidders) constr. 1.36 mi. six-lane divided segment of State Thruway's Niagara Sect. between Clinton and Peabody Sts. in Buffalo, incl. 0.78 mi. of access roads and structures to carry the Thruway over Bailey Ave., Seneca, Milton, Babcock and Peabody Sts. and Pennsylvania and D. L. & W. Railroads, Erie Co.

N. Y.—No bids received 12/6/56. Est. $633,000. reconstr. 5.37 mi. secondary road between Croghan and Indian River, constr. new three span 180 ft. long bridge over Beaver River, new road which will have 20 ft. wide bit. macad. pavement will be on entirely new alignment for about ½ mi. on Croghan end of the job, and also will be put on new location at several other points along the route in order to straighten the road, Lewis Co.

N. Y.—**Gull Contracting Co., Inc.**, 33-15 Lawrence St., Flushing, N. Y., LB $6,273,623, Est. $6,277,000 (2 bidders) constr. 1.45 mi. sect. of six-lane divided Horace Harding Expressway (Rte. 25D) between Parsons Blvd. and 192 St., incl. constr. of 3.72 mi. of access and service roads, constr. pedestrian overpasses at 159 St. and Fresh Meadow Lane and building of grade separation structures at 164 St., Utopia Parkway and 188 St., Queens Co. Bids Dec. 6. CD 11/13.

Washbourne Constr. Corp., Plattsburgh, N. Y. LB $324,548 (2 bidders) U. S. 9S for lowering sills, extending gates and misc. work at Lock 23, Erie Canal, Onondaga Co. and Lock 1, Oswego Canal, Oswego Co., NEW YORK. Henry A. Cohen, dir. Bureau Contracts & Accounts, The Gov. Alfred E. Smith State Office Bldg., Albany, N. Y. Bids Nov. 29. CD 11/16.

Beacon Constr. Co. of Mass., Inc., 102 Hanover St., Boston, Mass. LB $266,000 (3 bidders) utility bldg., plaza canopy, plaza islands, parking area, plaza paving and associated work, Lackawanna; LB $198,000. (3 bidders) utility bldg., etc., Blasdell, for State Thruway Auth., NEW YORK. Bureau Contracts & Accounts, The Gov. Alfred E. Smith State Office Bldg., Albany, N. Y. Bids Nov. 29. Bids 9/27 rejected. CD 10/4, under LB;
Metzger Constr. Corp., 429 Carlton St., Buffalo, N. Y. LB $219,760 (4 bidders) utility bldg., etc., Hamburg (New York);
A. E. Minstein Constr. Co., 864 Willis Ave., Albertson, N. Y. LB $159,000 (4 bidders) utility bldg., etc., Silver Creek; LB $189,000 (4 bidders) Dunkirk; LB $159,000 (4 bidders) Westfield; LB $189,000 (4 bidders) Ripley (New York).

Edenwald Contg. Co., 151-45 Sixth Rd., Whitestone, N. Y. CA $696,000 (5 bidders) streets and yard improv. for Marlboro Houses (Proj. No. NYS-64-2) located in area bounded generally by W. 11 St. Ave. W., Stillwater Ave., Ave. V, 86 St., W. 8 St. and Ave. X, BROOKLYN, N. Y. New York City Housing Auth., 299 Broadway, New York 7, N. Y. CD 10/18, under LB.

† **Central Iron Works, Inc.**, 2526 Butler Place, New York 61, N. Y. LB $174,219. rehabilitation of existing beams at Piers 2, 3 and 4, Brooklyn Army Base, ENG-30-075-57-69, BROOKLYN, N. Y. U. S. Eng., 111 E. 16 St., New York 3, N. Y. Bids Dec. 4. CD 11/13.

Brown-Turner, Inc., 205 E. 42 St., New York 17, N. Y. LB $519,300 (1 bidder) animal research bldg. Roswell Park Memorial Institute, SPRINGVILLE, N. Y. Bureau Contracts & Accounts, The Gov. Alfred E. Smith State Office Bldg., Albany, N. Y. Bids Nov. 29.

▲ **PENNSYLVANIA**—State Hy. Dpt., 506 N. Office Bldg., Harrisburg,

Pa.—**J. Robert Bazley, Inc.**, P. O. Box 298, Pottsville, Pa. LB $5,694,425 (9 bidders) constr. 38,379 ft. divided hy. of c. conc., five I-beam 2 plate girder 2 rein.-con. bridges, York-Baltimore Expressway, Springfield, York and Spring Garden Twps., York City, Loganville Boro, T.R. 111, York Co.;

Pa.—**Allegheny Contg. Industries, Inc.**, 801 Bingham St., Pittsburgh 3, Pa. LB $1,269,130 (2 bidders) constr. 10,680 ft. c. conc. with bit. surf. Pittsburgh City, Millvale Boro, T.R. 8-28, Allegheny Co.;

Pa.—**Latrobe Road Constr., Inc.**, P. O. Box 150, Latrobe, Pa. LB $1,166,830 (3 bidders) widn. 17,290 ft. existing road with plain. c. conc. surf. new and existing base O'Hara and Harmar Twps., T.R. 28, Allegheny Co.;

Pa.—**Irving N. Loomis & Sons**, Montrose, Pa. LB $713,958 (4 bidders) widn., overlay 41,803 ft. existing road with crushed aggregate base and bit. surf. 20 ft. wide, 2 prestressed precast rein.-con. bridges, Rome Boro, Wysox and Rome Twps., T.R. 187, Bradford Co.;

Pa.—**New Enterprise Stone & Lime Co.**, New Enterprise, Pa. LB $194,040 (12 bidders) constr. 14,140 ft. crushed aggregate base with bit. surf. 1 rein.-con. bridge, Green Twp., T.R. 580, Indiana Co.;

Pa.—**Coffins & Maxwell, Inc.**, Easton, Pa. LB $81,956 (2 bidders) constr. 1,774 ft. plain c. conc. with bit. surf. Fountain Hill Boro, Bethlehem City, Lehigh and Northampton Counties;

Pa.—**Canyon Constr. Co.**, Mansfield, Pa. LB $114,814 (7 bidders) constr. 2,465 ft. crushed aggregate base with bit. surf. 3 rein.-con. bridges, Morris and Liberty Twps., Liberty Boro, T.R. 414, Tioga Co. Bids Nov. 30. CD 11/8.

American Dredging Co., 12 S. 12 St., Phila. 7, Pa. CA $77,500. Bid No. 6035, dock dredging at city owned piers on Delaware River, PHILA., PA. City, Dpt. Procurement, City Hall Annex, Phila., Pa. Bids Nov. 16. CD 10/31.

† **S. E. Dockstader, Inc.**, Munsey Bldg., Wash., D. C., LB $84,122. steam service, underground electric and telephone duct sys., men's dormitory bldg. Howard University, Contr. GS-R3-B-4634, WASH., D. C. General Services Admin. P. Bldgs. Serv., 19 and F Sts. N. W., Wash., D. C. CD 11/7.

† **Princemont Constr. Corp.**, 11232 Triangle Lane, Silver Spring, Md., LB $85,381 (6 bidders) relocating Rock Creek Main Interceptor Sewer vicinity W. Beach Dr. & Broad Branch Rd. N. W., WASH., D. C. D. C. Govt., Dpt. Sanitary Eng., 499 Pa. Ave. N. W., Wash., D. C. Bids Nov. 29. CD 11/23.

BUILDINGS—LB & CA

▲ **Caristo Constr. Corp.**, 26 Court St., Brooklyn 2, N. Y. LB $3,690,000. (8 bidders) general constr. Thomas A. Edison Vocational High SCHOOL, 168 St. between Grand Central Parkway and 84 Ave., JAMAICA, N. Y. Bd. Educ., Bureau Constr., 42-15 Crescent St., Long Island City 1, N. Y. Bids Nov. 29. CD 11/2.
Lipsky & Rosenthal, Inc., Lexington Ave. and 115 St., New York 29, N. Y. LB $420,000. (9 bidders) plumbing work (Jamaica, N. Y.);
Heating Maintenance Corp., 220 E. 138 St., New York 51, N. Y. LB $547,325. (6 bidders) heating work (Jamaica, N. Y.);
Bank Electric Co., 126 W. 32 St., New York 1, N. Y. LB $838,000. (11 bidders) electrical work (Jamaica, N. Y.)

Fischer-Malik, Inc., Conklin Ave., Farmingdale, N. Y. CA $900,700 Site B; $983,500 Site D; $618,800 Site F; general contract 3 elementary SCHOOLS, LINDENHURST, N. Y. Bd. Educ., Union Free School Dist. No. 4, Town of Babylon, Clerks Office, Junior-Senior High School, 350 Wellwood Ave., Lindenhurst, N. Y. CD 11/28, under LB.

▲ **HRH Constr. Corp.**, 16 W. 46 St., New York 19, N. Y. CA $4,692,000. foundations and general constr. Mill Brook HOUSES (Proj. NYS-65) Sect. II, incl. bldgs. Nos. 1 to 4 (inclusive) incl. children's center in Bldg. No. 3 and community center in Bldg. No. 4 located in area bounded generally by E. 137 St., St. Anns Ave., E. 135 St. and Brook Ave., the Bronx, NEW YORK, N. Y. New York City Housing Auth., 299 Broadway, New York 7, N. Y. CD 10/4, under LB;
Far Plumbing Co., 2018 Crotona Parkway, New York 60, N. Y. CA $534,888. plumbing work (New York, N. Y.).

▲ **185 Broadway Corp.**, c/o Arnold A. Arbeit, archt., 154 Nassau St., New York 7, N. Y. Owner Builds. $1,500,000. 22 story OFFICE, 185 Broadway, southwest corner of Dey St., NEW YORK, N. Y. CD 4/27/55.

▲ **Planet Constr. Corp.**, 11 W. 42 St., New York 36, N. Y. LB $2,004,000. (7 bidders) general constr. PUBLIC SCHOOL 123, Edgecombe to 8th Ave., West 140 to W. 141 Sts., Manhattan Boro, NEW YORK, N. Y. Bd. Educ., Bureau Constr., 42-15 Crescent St., Long Island City 1, N. Y. Bids Dec. 5. CD 11/14.

J. C. Felton Contractors, Inc., 75 Linden St., Roslyn, N. Y. CA $602,905 (9 bidders) general constr. Laurel HOMES, Proj. No. N.Y.S. 41 C, on Church St., Laurel St., Donald Ave., ROSLYN, N. Y. North Hempstead Housing Auth., Pond Hill Rd., Manhasset, N. Y. CD 10/9, under LB.

Reader-Green Constr. Corp., 1 Sunrise Plaza, Valley Stream, N. Y. CA $653,177. Secatogue SCHOOL and Southgate SCHOOL, Celia St., WEST ISLIP, N. Y. Bd. Educ., Union Free School Dist. No. 9, town of Islip, N. Y. Bids Nov. 20. CD 11/8.

▲ **Alex Gottdiener**, 1369 North Ave., Elizabeth, N. J., Owner Builds, $1,600,000. 80 HOUSES, Park Ave., known as Riverside Estates, BERKELEY HEIGHTS, N. J. Harry Maslow, 275 Morris Ave., Elizabeth, N. J., archt.

▲ **Philip Solonedz**, 310 Westfield Ave., Roselle Park, N. J. Own Forces. $1,125,000. 90 HOMES, off Hy. 22 in Clinton to be known as Lakeview Hills, CLINTON, N. J. Louis M. Steuber, 2092 Morris Ave., Union, N. J., archt.

▲ **J. M. Straus & Co.**, 826 S. 20 St., Newark, N. J. CA $548,900. Livingston Ave. SCHOOL, CRANFORD, N. J. Bd. Educ., Cranford Twp., Cranford, N. J. CD 10/15, under LB.
American Building Constr. & Supply Co., 191 Broadway, Long Branch, N. J. CA $507,500. Bloomingdale Ave. SCHOOL (Cranford, N. J.).

▲ **Praver & Sons**, 163-18 Jamaica Ave., Jamaica, N. Y., Own Forces. $6,500,000. 495 HOUSES, in new development just opening off Rte. 33 in Hamilton Twp., known as Rollin Acres, HAMILTON TWP. (P. O. Trenton), N. J. Samuel Paul, 89-51 164 St., Jamaica, N. Y., archt.

▲ **Max J. Levine**, 655 Clinton Ave., Newark, N. J., Owner Builds, $2,000,000. 80 HOMES, Northfield Rd., known as Timber Hill Estates, LIVINGSTON, N. J. Erwin Gerber, 11 Commerce St., Newark 2, N. J., archt.

Frank W. Bogert, 124 Railroad Ave., Hackensack, N. J. CA Est. $450,000. SCHOOL, Wayne Twp., MOUNTAIN VIEW, N. J. Archdiocese of Paterson, 24 De Grasse St., Mountain View, N. J. Bids Nov. 15. CD 11/15.

▲ **Issac Levinstein & Murray Tontierer**, 854 Westminster Ave., Hillside, N. J. Own Forces. $3,500,000. 135 HOMES, Elkwood Ave., to be called Pine Way Park, NEW PROVIDENCE, N. J. Katz & Metsky, 875 Broad St., Newark, N. J., archts.

▲ **Cypress Constr. Co.**, 5 Willowbrook Dr., North Caldwell, N. J. Owner Builds. $1,500,000. 50 HOUSES, Windsor Ave., known as Highland Manor, NORTH CALDWELL, N. J. Leonard Feinen, 320 Lincoln Ave., Hasbrouck Heights, N. J., archt.

▲ **Cypress Constr. Co.**, 5 Willowbrook Dr., North Caldwell, N. J. Owner Builds. $1,500,000. 50 HOUSES, Willowbrook Estates on Smull Ave., NORTH CALDWELL, N. J. Leonard Feinen, 320 Lincoln Ave., Hasbrouck Heights, N. J., archt.

▲ **Joseph Lanzo**, 231 N. 16 St., Bloomfield, N. J. Owner Builds. $1,400,000. 50 HOUSES, Mountain Ave., North Caldwell, to be known as Greenbrook Homes, NORTH CALDWELL, N. J. William G. Chirgotis, 968 Stuyvesant Ave., Union, N. J., archt.

▲ **Walchap Constr. Co. of N.J.**, E. 42-Far View Terrace, Paramus, N. J. Own Forces. $4,500,000. 175 HOUSES in Beechwood Acres development, in Oradell Borough, ORADELL, N. J. C. J. Kordys, 116 Passaic St., Passaic, N. J., archt.

Terrace Builders, Inc., Albert Spisso, 2107 Terrace Ave., South Plainfield, N. J. Owner Builds. $600,000. 40 HOMES in section known as Tooz Ave. Estates, SOUTH PLAINFIELD, N. J.

▲ **A. Stratton**, 2 Clifton Ave., Clifton, N. J. Owner Builds. $1,100,000. 50 HOUSES, South Springfield Ave., known as Newbrook Gardens, SPRINGFIELD, N. J. Leonard Feinen, 320 Lincoln Ave., Hasbrouck Heights, N. J., archt.

J. C. Orr & Son, Seventh Ave. and Fifth St., Altoona, Pa. LB genreal constr. 1 story, 100x300 ft. brick steel Altoona Undergraduate CENTER, ALTOONA, PA. Total bid $402,412. State University, State College, Altoona, Pa. Bids Nov. 15. CD 11/9;
Mulch Brothers, Hollidaysburg, Pa. LB heating work (Altoona, Pa.);
Moyer Brothers, 2605 Beale Ave., Altoona, Pa. LB plumbing and electrical work (Altoona, Pa.).

▲ **Dick Corp.**, Rte. 51, Large, Pa. LB $1,333,333. 2 story, brick, steel JUNIOR SENIOR HIGH SCHOOL, LIBRARY, PA. Snowden Twp. School Auth., Library, Pa., Celli Flynn, 335 Shaw Ave., McKeesport, Pa., archt. CD 8/7/53.

SOUTH

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

December 19 Virginia

STREETS AND ROADS

December 19 Virginia

† **Tenn., Smyrna**—CLEARING, etc.—BA On Or About 12/27—U. S. Eng., 306 Federal Office Bldg., Nashville, approach zone clearing and obstruction lighting, Stewart Air Force Base, ENG-40-058-57-11. CD 8/27.

Ga., Camp Stewart—UTILITIES—BA About 1/10—U. S. Eng., 200 East St. Julian St., Savannah, off-site utilities, Capeheart Housing, Fort Stewart, ENG-09-133-57-2.

BUILDINGS—BA

Ky., Covington—SCHOOL, etc.—BA 1/3—Catholic Diocese of Covington, Madison Ave., 1 story, bsmnt., brick, stone school, chapel, $575,000. Plans deposit $50. Betz & Bankamper, Scott St., archts. CD 9/12.

▲† **Ky., Fort Campbell**—SUPPORTING FACILITIES—BA 1/9—U. S. Eng., 306 Federal Bldg., Nashville, Tenn., supporting facilities for permanent troop housing, incl. 3 dispensaries, 3 post exchanges, theater, motor repair shops, battalion headquarters bldg., chapel, classroom bldgs., steam distr. sys., paving, etc., ENG-40-058-57-3. $2,282,384. Plans deposit $75, refundable. CD 12/5.

HEAVY CONSTRUCTION—LB & CA

Hammond Iron Works, 1511 22nd St. N., Arlington, Va. LB $110,400. (3 bidders) Contr. 5, furnish, erect 500,000 gal. elevated steel water storage tank at N. Wakefield St. and 24 St. N., ARLINGTON, VA. Arlington Co. Purch. Agent, Court House, Arlington, Va. Bids Nov. 30. CD 11/16.

Nance & Vivadelli, Arlington Trust Bldg., Arlington, Va. LB $90,330. (5 bidders) Contr. 4, water pipe, incl. manholes, cone valves, etc., ARLINGTON, VA. Arlington Co. Purch. Agent, Court House, Arlington, Va. Bids Nov. 30. CD 11/16.

† **Schutt Constr. Co.**, Genoa, Wis., CA $519,975. training facilities imprvs. (Second Increment) Marine Corps Schools, NBy 6091, QUANTICO, VA. Dist. P. Wks. Office, Potomac River Naval Command, Naval Gun Factory, Wash., D. C. Bids Oct. 24, awarded Nov. 29. CD 10/31, under LB.

▲† **Guy F. Atkinson Co.**, 10 W. Orange Ave., South San Francisco, Calif., **Ostrander Constr. Co.**, Portland, Ore., and **Soo Contractors**, 64 W. 5 St., Winona, Minn. LB $21,945,775. (5 bidders) concrete dam flanked by earth embankments, reservoir, power plant on Savannah River, near Hartwell, Ga., Hartwell Proj., CIVENG-09-133-57-105, GEORGIA and SOUTH CAROLINA. U. S. Eng., Veranda Room, Manger Hotel, 36 Bull St., Savannah, Ga. Bids Dec. 4. CD 10/22.

† **Eastern Contractors, Inc.**, 1517 Heatherwood Rd., Columbia, S. C., LB $510,155, two airmen's dormitories, Myrtle Beach Air Force Base No. 38-081-57-9, MYRTLE BEACH, S. C. U. S. Eng., Customhouse, Charleston, S. C. Bids Nov. 29. CD 11/8.

† **Ford Constr. Co.**, Dyersburg, Tenn. CA $606,900. clearing, grubbing, constr. retaining dikes and approach fill, Vicksburg Harbor Proj along north Rim of Lake Centennial, Warren Co., CIVENG-22-052-57-40, MISSISSIPPI. U. S. Eng., P.O. Box 60, Vicksburg, Miss. CD 11/14, under LB.

† **Delta Equipment & Constr. Co., Inc.**, 3324 Delaware St., Baton Rouge, La. CA $480,644. riprap, Plaquemines Parish, Inv. 57-91, LOUISIANA. U. S. Eng., foot of Prytania St., New Orleans, La. Bids Nov. 14. CD 10/24.

† **R. P. Farnsworth & Co., Inc.**, Box 850, New Orleans, La. LB $948,000. air force reserve hangar (eantos, U. S. Naval Air Station, Alvin Callender Field, NBy 1074, NEW ORLEANS, LA., Bureau Yards & Docks, Naval Air Station, Bldg. 16, New Orleans, La. Bids Nov. 20. CD 10/15

† **Clarke, Stewart & Wood**, 328 Georgetown St., Lexington, Ky. LB $253,631. 1 story, 37x211 ft., 63x184 ft. concrete slab, brick maintenance shop for air National Guard, FRANKFORT, Ky. U. S. Army & Air National Guard, P. O. Box AA, Cherokee Station, Louisville, Ky. Bids Nov. 20. CD 10/24.

BUILDINGS—LB & CA

York Building Co., 2016 Cameron St., Raleigh, N. C. CA Approx. $900,000. 2 story, 60,000 sq. ft. masonry, brick OFFICE, RALEIGH, N. C. Cameron Village, Inc., J. W. York, pres., 400 Oberlin Rd., Raleigh, N. C. Leif Valand, 2016 Cameron St., Raleigh, N. C., archt.

▲ **Sam Friedland**, c/o Norman M. Giller, archt., 420 Lincoln Rd., Miami Beach, Fla. Owner Builds. $15,000,000. 7 story RESORT HOTEL, MOTEL and COUNTRY CLUB, The Diplomat Hotel, 3 swimming pools, 18 hole golf course, Hallandale Beach Blvd., HOLLYWOOD BEACH, FLA. Norman M. Giller, 420 Lincoln Rd., Miami Beach, Fla., archt.

▲ **William Segal**, c/o Harry C. Schwebke & Assoc., engrs., 4841 N.W. 2 Ave., Miami, Fla. Owner Builds. $1,000,000. 600 RESIDENCES, Eureka Dr., S.W. 184 St., East of Hy. 1, "Whispering Pines," SOUTH MIAMI, FLA.

▲ **J. A. Jones Constr. Co.**, 354 Aero Dr., Shreveport, La. LB $2,359,000. 10 story HOTEL, BATON ROUGE, LA. Heidelberg Hotel, Lafayette St., Baton Rouge, La. Bids Dec. 1. CD 11/13.

Gurtler, Hebert & Co., Inc., Box 8066, New Orleans, La. CA $657,018. 40,000 sq. ft. Jefferson Davis Elementary SCHOOL in Pecan Park subdivision, NEW ORLEANS, LA. Orleans Parish School Bd., 703 Carondelet St., New Orleans, La. Bids Oct. 16, awarded Nov. 26. CD 11/13, under LB.

The Werner Co., Box 908, Shreveport, La. CA $956,000. State OFFICE, SHREVEPORT, LA. State Bldg. Auth., Capitol Bldg., Baton Rouge, La. Bids Nov. 27, awarded Nov. 30. CD 12/4, under LB.

Spratt & Mitchell, P.O. Box 201, Campbellsville, Ky. LB $439,000. (7 bidders) 1 story, 24,000 sq. ft. Central High SCHOOL, HODGENVILLE, KY. Larue Co. Bd. Educ., Hodgenville, Ky. Bids Dec. 4. CD 11/14.

MIDDLE WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

STREETS AND ROADS

December 18 Ohio

Mich., Detroit—TAXIWAY LIGHTING—BA 12/18—Bd. Rd. Comrs. Wayne Co., City-County Bldg., CAA 9-20-032-716, State FM 82-17-C30, County WC-56-C18, taxiway lighting, 153 column mounted taxiway lighting units, complete with transformer, 7 taxi guidance signs, incidental items, Detroit-Wayne Major Airport. Plans deposit $10, refundable. CD 11/9.

Mich., Detroit—BA 12/18—Wayne Co., Christopher J. Mulle, drain comr., 3523 Cadillac Tower, constr. Boice Drain, Drainage District No. 2009, Sec. 1, 1,500 ft. 108 in. rein.-con. ASTM C76-T2 one headwall, Sec. 2, constr. siphon (inverted) and chambers, Sec. 3, 4,787 ft. 102 in. R C ASTM C76-T2, 3 manholes, trans. chamber, Sec. 4, 3,238 ft. 84 in. R C ASTM C76-T1, 6 manholes, 5 inlets, Sec. 5, 1,400 lin. ft. 60 in. rein.-con. ASTM C76 T1, 2 manholes, 1 inlet, 2 catch basins, 20 ft. 12 in. pipe, Romulus, Nankin, Wayne. Plans deposit $25, refundable. Brender & Brender, Wayne, engrs.

Mich., Detroit—APRON—BA 12/18—Bd. Rd. Comrs. Wayne Co., M. J. O'Brien, chn., 726 City-County Bldg., Zone 26, apron in terminal area and two taxiways, 108,684 sq. yd. 11-.to 13-in. rein.-con. paving, earth excav., Detroit-Wayne Major Airport, CAA 9-20-032-716, State FM 82-17-C-29, County WO-56-C16. Plans deposit $10, refundable. CD 11/9.

▲ **ILLINOIS**—BA 12/20—Illinois State Toll Hy. Comm., 20 N. Wacker Dr., Chicago,
Kane Co.—Contract N-5A, grading, draining, paving with appurtenances, precast concrete girder bridge over Fox River, north of Elgin, $2,500,000. Alfred Benesch & Assocs., 111 W. Jackson Blvd., Chicago, section engrs.
McHenry and Kane Counties—Contract N-4B, grading, drainage, paving with appurtenances, precast concrete bridges 5.45 mi. between Harmony and Hengeck, $3,800,000. Ceisler & Stapleton and Brown & Blauvelt, Huntley, Ill., section engrs. CD 10/16.

Mich., Buchanan—BA 12/20—City, Harry A. Post, clk., sanitary sewers, 10,500 ft. 8 in. clay sewers, 560 ft. 4 in. c.i. pipe, 250 ft. sewer service connections, sewage lift station, 100 gpm, 36 manholes, appurtenances; 7,800 ft. 10- to 36-in. storm sewers, 14 manholes. Plans deposit $15, refundable. R. W.

Petrie & Assoc., Inc., 557 Paw Paw Ave., Benton Harbor, engr.

† **Mich., Kinross**—BUILDINGS—BA 12/21—U. S. Eng., 600 E. Jefferson Ave., Detroit, Zone 26, airfield bldgs., Kinross Air Force Base. CD 8/21.

O., Bowling Green—ELECTRIC DISTR.—BA 12/28—State Dpt. P. Wks., 705 Ohio Depts. Bldg., Columbus, electrical distr. sys., Bowling Green State University. $65,000. Plans deposit $5. John Paul Jones, Cary & Millar, 1740 E. 12 St., Cleveland, Zone 14, engrs. H. G. Allen, c/o owner, engr.

BUILDINGS—BA

O., Deer Park—SCHOOLS—BA 12/19—Deer Park Local School Dist., Deer Park, schools alterations. $750,000. Plans deposit $50. Sullivan, Isaacs-Sullivan, 1800 Reading Rd., Reading, archts. CD 5/11.

O., Springfield—HIGH SCHOOL—BA 12/20—Catholic Archdiocese of Cincinnati, 423 Commercial Sq., Cincinnati, 3 story, bsmntless, 80,000 sq. ft. rein.-con., brick high school. $900,000. Plans deposit $100. Betz & Bankamper, 319 Scott St., Covington, Ky., archts. CD 1/12.

O., Bowling Green—SCHOOL—BA 12/21—Bd. Educ., Bowling Green, schools. $527,000. Strong, Strong & Strong, 124 S. West St., Lima, archts. CD 11/12.

Ind., Keener Twp.—SCHOOL—BA 12/27—Twp. Trustees & Advisory Bd., Keener Twp., Demotte, 1 story school addn. $400,000. Plans deposit $25. John A. Keiley, 404 Warren Bldg., Michigan City, engr.

▲ **O., Cincinnati**—HOME FOR AGED—BA 1/3—Bd. Comrs. Hamilton Co., Court House, home for aged. $3,500,000. Plans deposit $75. Hake & Hake, Gilbert Ave., and Samuel Hannaford & Sons, Dixie Terminal Bldg., archts. Bodenstein & Schuster, Second Natl. Bank Bldg., engrs. CD 11/3/55.

Wis., River Falls—DORMITORY—BA 1/4—Wisconsin State College Bldg. Corp., Madison, dormitory, $600,000. Plans deposit $25. Schubert, Sorensen & Assocs., 308 Hoeschler Bldg., LaCrosee, engrs. CD 11/13.

HEAVY CONSTRUCTION—LB & CA

▲ **OHIO**—State Hy. Dpt., Columbus, Zone 15,
O.—**Connolly Constr. Co.**, Delaware Rd., Box 271, Marysville, O., LB $200,226, est. $225,500 (8 bidders) Type T-35 on B-119 and structure 1.093 mi. SR 725-6.05, S-376 (3), Greene Co.;
O.—**S. J. Groves & Sons Co.**, 500 Wesley Temple Bldg., Minneapolis, Minn., LB $3,714,468, est. $4,021,000. (8 bidders) Type T-71 and structures 6.534 mi. USR 42-1.89; USR 224-6.25, F-420 (11) Medina Co.;
O.—**The Resar Service Co.**, 215 E. Griswold Rd., Elyria, O., LB $365,724, est. $363,900 (3 bidders) Type T-35, 4.213 mi. SR 153-(0.81-13.75); S-298 (4), Stark Co.; LB $129,015, est. $120,400, (2 bidders) Type T-35, 1.12 mi. SR 44-11.27, Stark Co.;
O.—**Baker & Hickey Co.**, 2170 Eakin Rd., Columbus, O., LB $1,058,540, est. $1,089,000 (4 bidders) Type T-35 on B-119 and structure 0.554 mi. USR 422-4.76; Cities of Youngstown and Campbell Counties, Mahoning Co.;
O.—**Nilen Black, Inc.**, 706 Highland Ave., Wooster, O., LB $464,272, est. $444,700 (2 bidders) Type T-35 and structures, 0.518 mi. SR 93-(7.68-8.02), City of Akron, Summit Co. Bids Nov. 27. CD 11/9.

▲ **OHIO**—State Dpt. Hys., Columbus, Zone 15,
O.—**Hatcher Brothers, Inc.**, 116 Schoolway, Mingo Junction, O., CA, $624,810, est. $734,000. Type T-35 on B-119 and structures 1.671 mi. USR 62, Village of Genn and Union Twp. and Richland Twp. Sects. 0.00; 22.82, S-SG-141 (2), Holmes and Knox Counties;
O.—**S. J. Groves & Sons Co.**, 500 Wesley Temple Bldg., Minneapolis, Minn., CA, $2,199,835, est. $2,349,600, Type T-71 and structures 7.95 mi. USR 224, Harrisville Westfield and Guilford Twps., Sect. 10.33, F-458 (15) Medina Co.;
O.—**B. F. Perry Constr. Co. & M. B. Guran Coal & Contg. Co.**, 1075 Ricer St., Akron O., CA, $3,298,611, est. $3,415,900, Type T-35, B-70 and T-71 and structures 1.272 mi. SR 18, City of Akron, Sect. 13.66, U-1086 (1). (Part No. 8-Akron Expressway Sys.), Summit Co.;
O.—**Baker & Hickey Co. Assocs.**, 2170 Eakin Rd., Columbus O., CA, $147,190, est. $157,500, Type T-35 on B-119 and structure, SR 47, York and Claibourne Twps., Sects. (1.98) (6.26) (10.29), S-334 (3), Union Co. Grand total $6,270,446. CD 11/23, under LB.

OHIO—State Dpt. Hys., Columbus, Zone 15, rejected bids Nov. 13, Type T-35 and structure 2.58 mi. SR 73, Rush And Washington Twps. Sect. 20.78, S-492 (4), Scioto Co., LB $629,693, est. $561,100, Type T-35 on B-70 1.336 mi. USR 422, City of Youngstown, Sect. 3.72, Mahoning Co., LB $513,413, est. $425,800. CD 11/23, under LB.

† **Great Lakes Dredge & Dock Co.**, Williamson Bldg., Cleveland 14, O. LB $132,320, est. $140,000. rebuild 1,400 ft. rock dike parallel to navigation channel in Sandusky Harbor, Sandusky, Erie Co., OHIO, U. S. Eng., Engineer Park, Buffalo 7, N. Y. Bids Nov. 27. CD 11/1.

J & S Galier Co., 3418 W. 148 St., Cleveland 11, O. CA $86,925 (6 bidders) grading, paving, curbing, drainage W. 160 St. from Puritas Ave. to 2,625 ft. southerly, CLEVELAND, O. City, Dpt. of Public Service, Louis L. Drasler, dir., City Hall, Cleveland 14, O. Awarded Nov. 28. CD 3/29/54.

† **Marion Contg. Corp.**, 25 S. Main bg., Dayton, O. LB $222,672, est. $271,850, Building 45 addn., for Research Facility, Test A/C and Missile, Wright Patterson Air Force Base, ENG-15-029-501-17, DAYTON, O. U. S. Eng., 830 W. Broadway, Louisville, Ky. Bids Dec. 11. CD 11/1.

▲ **Robert R. Anderson Co.**, 4550 W. Patterson St., Chicago, Ill. CA $2,049,141. Calumet Skyway Toll Bridge, Sect. 3-A-1, substructure for structures, storm sewers, paving, etc., Dante Ave. to north side of Elliott Ave., CHICAGO, ILL. City, City Hall, Chicago, Ill. DeLeuw, Cather & Co., 150 N. Wacker Dr., Chicago, Ill. co-or. engrs. H. W. Lochner & Co., 150 N. Wacker Dr., Chicago, sec. engrs. Bids Nov. 1. CD 11/8, under LB.

MICHIGAN—State Hy. Dpt., Purch. Director, Lewis Cass Bldg., Lansing,
R. C. Mahon Co., P. O. Box 4666, Detroit, Mich. LB $86,400. 540,000 lb. structural steel for bridge on relocation of US-23 over Ann Arbor Rd., Whitmore Lake, MXL of 81-10-15 C1-RN (81075), Washtenaw Co. Bids Nov. 14. CD 11/8.

† **Darin & Armstrong, Inc.**, 2041 Penkell St., Detroit, Mich. CA $799,049. Special AAA Sites, Detroit and vicinity, MICHIGAN, U. S. Eng., 600 E. Jefferson Ave., Detroit 26, Mich. Bids Nov. 21. CD 11/2.

▲ **Vattore Co. & Louis Garavaglia**, 24240 Mound Rd., Centerline, Mich. CA $6,780,000. storm sewer in West McNichols St. from Hubbell to Rouge River, DETROIT, MICH. City, 528 City-County Bldg., Detroit 26, Mich. Bids Oct. 30. CD 9/24.

BUILDINGS—LB & CA

▲ **Frank Messer & Sons, Inc.**, 4612 Paddock Rd., Cincinnati, O., CA $1,924,000. GARAGE, STORAGE DEPOT, pipe yards for Water Works Dpt., CINCINNATI, O. City, City Hall, Cincinnati, O. Bids Oct. 30. CD 11/1, under LB.

▲ **Turnau & Young**, c/o Robert B. Schildknecht, archt., Mills Bldg., 31 E. 4 St., Cincinnati, O. Own Forces $5,000,000. 135 units HOMES, Kenwood Rd., CINCINNATI, O. Carl A. Rehring, 6988 Crystal Springs St., Mariemont, O., engr.

▲ **Indenco, Inc.**, 960 98th Ave., San Leandro, Calif. CA Est. $1,000,000. 1 and 2 story, brick, concrete, steel WAREHOUSE and OFFICE, Phillippi Rd., COLUMBUS, O. Rexall Drug Co., 8480 Beverly Blvd., Los Angeles, Calif. CD 3/16.

Kent Brothers Co., 22 E. Gay St., Columbus, O. LB $453,756, general and electrical contract elementary SCHOOL in Lincoln Village, COLUMBUS, O. Southwest Bd. Educ., 1390 Harrisburg Pike, Columbus, O. Joseph Baker & Assocs., 180 Hudson Ave., Newark, O., archts.

Frank Messer & Sons, 4612 Paddock Rd., Cincinnati, O. LB $831,400, est. $947,000. two wings to ARPS HALL HEADQUARTERS addn. Ohio State University College of Education, COLUMBUS, O. State Dpt. P. Wks., State Office Bldg., Columbus, O. CD 6/19.

Slavin Builders, 2156 Century Dr., Columbus, O. CA $850,000. 3 story OFFICE, Bryden Rd. and Parsons Ave., COLUMBUS, O. Bryson Co., 21 E. State St., Columbus, O. CD 4/6.

B. G. Danis Co., Inc., 1518 E. 1st St., Dayton, O. LB Est. $400,000. enlarge capacity of CHURCH, KETTERING, O. St. Albert the Great Catholic Church, 2727 Far Hills Ave., Kettering, O.

Victory Constr. Co., Knott Bldg., Dayton, O. LB $369,353 (5 bidders) 2 story, rein.-con. HIGH SCHOOL, GYMNASIUM, McGee St., LINCOLN HEIGHTS, O. Bd. Educ. McGee St., Lincoln Heights, O. Bids Nov. 26. CD 11/5.

▲ **McDowell Co., Inc.**, 3203 W. 71 St., Cleveland, O. CA Est. $1,000,000. design and constr. cement PLANT and dock, between Black River and B. & O. R.R., LORAIN, O. Universal Atlas Cement Co. (subsidiary United States Steel Corp.), 71 Broadway, New York 6, N. Y. CD 5/17.

▲ **Bentley & Sons**, 201 Belmont Ave., Toledo, O. CA Est. $1,500,000, general constr., electric, plumbing, etc., for 150,000 sq. ft. FACTORY PARTS BLDG., Waggoner Blvd., TOLEDO, O. Dana Corp., 4100 Bennett Rd., Toledo, O. Laucomer & Manfer, H. Samborn Brown, 4895 Grand River St., Detroit, Mich., archts.

▲ **Huber, Hunt & Nichols, Inc.**, 2450 S. Tibbs St., Indianapolis, Ind. LB $3,019,000. general contract HUMANITIES and SOCIAL SCIENCE BLDG., Indiana University, BLOOMINGTON, IND. Indiana University, Administration Bldg., Bloomington, Ind. Bids Nov. 27. CD 10/5.
Hayes Brothers, Inc., 236 W. Vermont Ave., Indianapolis, Ind. LB $954,000, mechanical work (Bloomington, Ind.);
The Sanborn Electric Co., 511 N. Illinois St., Indianapolis, Ind. LB $566,470, electrical work (Bloomington, Ind.)

▲ **Ragnar Benson, Inc.**, 4744 W. Rice St., Chicago, Ill. CA $40,000,000. SEAMLESS TUBE MILL, OFFICE BLDG., Indiana Harbor Works, EAST CHICAGO, IND. Youngstown Sheet & Tube Co., Dickey Rd., East Chicago, Ind. Auburn & Assoc., Inc., 923 Pennsylvania Ave., Pittsburgh, Pa., archts. CD 11/1/51.

Berling & Sons, 212 S. Temple St., Indianapolis, Ind. CA $918,000. 105 APARTMENT project for student housing at Indiana University Medical Center, INDIANAPOLIS, IND. Indiana University, c/o Med. Center, 1100 W. Mich. St. CD 10/16.

▲ **Bates & Rogers**, 600 W. Jackson Blvd., Chicago, Ill. CA $1,318,000. 1 story, brick, steel concrete GENERATING PLANT addn. 1037 W. Cermak Rd., CHICAGO, ILL. Commonwealth Edison Co., 72 W. Adams St., Chicago, Ill.

▲ **Clearing Industrial Dist.**, 38 S. Dearborn St., Chicago 3, Ill., CA $3,000,000. 288,000 sq. ft. PLANT, 25 acre site on 73rd St. and Cicero Ave., CHICAGO, ILL. Boyle-Midway, Inc., 5235 W. 65th St., Chicago, Ill.

Kinnare Corp., 2816 W. Monroe St., Chicago, Ill. CA $353,000. 2 story, bsmnt., brick RECTORY, St.

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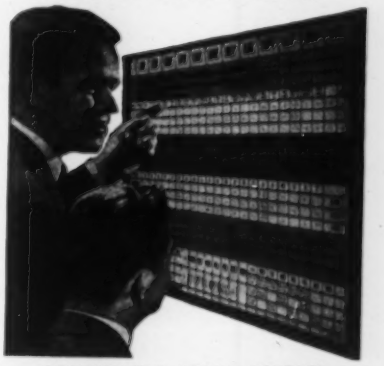

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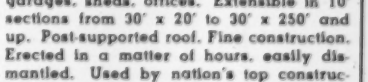
CONSTRUCTION BUILDINGS



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Let/s Church, CHICAGO, ILL. Catholic Church of Chicago, 7750 S. Emerald St., Chicago, Ill. Barry & Kay, 53 W. Jackson Blvd., Chicago, Ill., archts.

▲ **Gust K. Newberg Co.**, 2040 N. Ashland Ave., Chicago, Ill., CA **$5,000,000**. 1 story, steel Ford Assembly PLANT, 126th St. and Torrence Ave., CHICAGO, ILL. Ford Motor Co., Box 117, Dearborn, Mich. Sverdrup & Parcel, Inc., 915 Olive St., St. Louis, Mo., archt. CD 11/5.

▲ **Erik A. Borg**, 6649 N. Ridge Ave., Chicago, Ill. Own Forces, **$1,000,000**. 7 story APARTMENT, 85 units, 1410 Chicago Ave., EVANSTON, ILL. Burnham & Hammond, 53 W. Jackson Blvd., Chicago, Ill., archts.

Hanson & Werhane, 3104 Skokie Valley Rd., Highland Park, Ill. CA **$800,235**. Glencoe West Grade SCHOOL, Dundee and Forest Way Rds., GLENCOE, ILL. School Dist. 35, 1000 Green Bay Rd., Glencoe, Ill. CD 11/29.

▲ **Coath & Goss, Inc.**, 5102 W. Lake St., Chicago, Ill. CA **$2,057,375**. (a) Longfellow Elementary SCHOOL addn., 315 Jackson Blvd. (b) Holmes Elementary SCHOOL and GYMNASIUM, W. Chicago Ave., OAK PARK, ILL. School Dist. 97, 122 Forest Ave., Oak Park, Ill. CD 11/30, under LB.

▲ **Burt Homes, Inc.**, 16021 W. McNichols St., Detroit, Mich., and **Peter W. Decker**, 520 W. Fort St., Detroit, Mich. CA Est. **$3,500,000**. Lewis Manor HOMES, Ford, Cherry Hill and Telegraph Rds., DEARBORN, MICH. Joseph F. Ferry Co., 19601 Grand River, Detroit, Mich.

▲ **Consumers Constr. Co.**, 18107 James Couzens Hy., Detroit, Mich. CA Est. **$5,000,000**. 257 brick HOUSES, 93 acre site, north section, MIDLAND, MICH. Carl R. Sams Co., Inc., 1256 Penobscot Bldg., Detroit, Mich.

▲ **Ted Peters**, 2012 Louise St., Detroit, Mich. CA Est. **$5,500,000**. 200 HOMES, Lakeshore Acres No. 2, ST. CLAIR SHORES, MICH. Stein & Burchard, 23330 Greencrest St., St. Clair Shores, Mich.

WEST OF MISSISSIPPI

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

December 18 Colorado December 21 Kansas

STREETS AND ROADS

December 18 Colorado December 20 Texas
December 21 Kansas

† Kansas—BA 12/20—U. S. Eng., Federal Office Bldg., Kansas City, Mo., levee, channels, at Salt Creek, Barnard, Inv. 23-028-57-48.

† **N. M., Clovis**—COLD STORAGE BLDG.—BA About 12/20 U. S. Eng., P. O. Box 1538, Albuquerque, cold storage bldg., Clovis Air Force Base, ENG-29-005-57-55. CD 10/23/51.

† **Tex., El Paso**—MISSILE UNDERGROUND STORAGE, etc.—BA 12/27—U. S. Eng., P.O. Box 1538, Albuquerque, N. M., missile underground storage and launching facilities, McGregor Range, Fort Bliss, ENG-29-005-57-60.

† **S. D., Rapid City**—MARKER—BA 1/3—U. S. Eng., 1709 Jackson St., Omaha, Neb., ILAS middle marker, Ellsworth Air Force Base, Inv. 25-066-57-36. CD 8/21.

† **Mont., Glasgow**—ROADS—BA 1/4—U. S. Eng., City-County Airport, Walla Walla, Wash., construct, pave 4 mi. b. conc. roads, concrete curbs with gutters and storm drainage systems at Air Force Base, ENG-45-164-57-15. Extended date. CD 11/28.

† **N. M., Albuquerque**—BA About 1/8—U. S. Eng., P.O. Box 1538, modification to water supply sys. automatic control equip., Sandia Base, ENG-29-005-57-42. CD 11/21, under LB.

† **South Dakota**—BA 1/8—U. S. Eng., 1709 Jackson St., Omaha, Neb., hydraulic turbines for Oahe Reservoir Proj., near Pierre, Inv. 25-066-57-29. CD 11/20, under LB.

† **N. D., Minot**—HEATING PLANT—BA 1/10—U. S. Eng., 1709 Jackson St., Omaha, Neb., central heating plant addn., Minot Air Force Base, Inv. 25-066-57-32. CD 8/20.

BUILDINGS—BA

▲ **Tex., Amarillo**—HIGH SCHOOL—BA 12/19—Amarillo Independent School Dist., 508 Johnson St., Senior High School. Approx $1,000,000. Plans deposit $25. Robert E. Hucker and Earl W. Parge Assocs., Johnson Bldg., archts. CD 4/26.

Tex., Bryan—HIGH SCHOOL—BA 12/20—Bryan Independent School Dist., Bryan, Junior High School to replace Lamar School. $735,000. Paul J. Pond, 1202 Brook St., Wichita Falls, and Phil G. Norton & Assocs., Box 1169, archts. CD 11/2/55.

† **Tex., El Paso**—CLASSROOM—BA 12/20—U. S. Eng. Box 1538, Albuquerque, N. M., battalion classroom bldgs., Fort Bliss, Inv. Eng-29-005-57-9. $500,000. CD 9/29/55.

Tex., Waco—HIGH SCHOOL—BA 1/15—Waco Independent School Dist., 3420 North Waco Dr., Lake Air Junior High School, Cobb and Lake Air Drives. $870,000. Extended date. Spicer, Bush & Witt, 2125 Austin Ave., archts.-engrs. Vandell, Cowan & Love, 303 Fort Worth Natl. Bank Bldg., Fort Worth, engrs. CD 12/3.

HEAVY CONSTRUCTION—LB & CA

Scott-Bain Co., 711 Riss Bldg., Kansas City, Mo. CA **$50,000**. WW improvs., BRECKENRIDGE, MO. City, Breckenridge, Mo. E. T. Archer & Co., Railway Exchange Bldg., Kansas City, Mo., engrs. Bids Nov. 20. CD 6/20.

City, City Hall, Independence, Mo., cancelled bids to have been opened Nov. 26, sanitary sewers, lift stations, force mains, Joint Dist. 1 annex area south Hy. 40, INDEPENDENCE, MO. CD 11/20.

▲ **Pittsburgh Des Moines Steel Co.**, 1015 Tuttle St., Des Moines, Iowa. CA Est. **$1,000,000**. 4 m.g. covered steel storage tank, ST. JOSEPH, MO. City, City Hall, St. Joseph, Mo.

Johnson Constr. Co., 1329 S. Clay St., Springfield, Mo. CA **$188,800**. Stadium, incl. bldg., storage, running tracks, drainage, fence, SPRINGFIELD, MO. Reorganized School Dist. 12, Greene Co., 940 N. Jefferson Ave., Springfield, Mo. Bids Nov. 14. CD 11/8.

Stake Constr. Co., Taunton, Minn., CA **$151,537** (6 bidders) 188 mi. telephone pole line, Lincoln and Turner Counties, rebuild cable plant in Chancellor and Lennox, SOUTH DAKOTA. Dakota Co-operative Telephone Co., K. Knudson, mgr., Irene, S. D. Bids Oct. 31.

† **Alexander Constr. Co.**, 4641 Hiawatha Ave., Minneapolis, Minn., CA **$513,052**, East Access Road, Oahe Reservoir Proj., near Pierre, Inv. 25-066-57-40, SOUTH DAKOTA. U. S. Eng., 1709 Jackson St., Omaha, Neb. Bids Nov. 15. CD 11/20, under LB.

† **Eugene Luhr & Co.**, Columbia, Ill., CA **$567,890**, dikes and revetment, Missouri River at Omaha-Pin Hook Bends, near Bellevue, Inv. 25-066-57-34, NEBRASKA. U. S. Eng., 1709 Jackson St., Omaha, Neb. Bids Nov. 9. CD 11/16, under LB.

R. H. Fulton & Co., Odessa, Tex., CA **$145,000**, 19 mi. 16 in. gas lines, near Andrews, Andrews Co., TEXAS. Permian Basin Pipe Line Co., Midland, Tex. CD 10/5.

▲ **Houston Contg. Co.**, 2707 Ferndale St., Houston, Tex. CA Est. **$3,630,000**. 121 mi. 30 in. gas line between Angleton and Vidor, TEXAS. Texas Eastern Transmission Corp., Texas Eastern Bldg., Shreveport, La. CD 1/10.

R. G. LeTourneau Co., Longview, Tex., LB **$44,375**, est. $75,000, clearing 1,800-acre reservoir area on Murvaul Bayou, CARTHAGE, TEX. Panola County Fresh Water Dist. No. 1, c/o Dr. W. C. Smith, chn. Bd., Carthage, Tex. Bids Nov. 20. CD 10/31.

M. W. Grumbles, 7015 Merrilee Lane, Dallas, Tex. LB **$73,860**, vehicle bridge at Dixons Branch on Easton Rd., DALLAS, TEX. City, City Hall, Dallas, Tex. Bids Nov. 26. CD 1/31.

J. L. Myers & Sons, 5306 Harry Hines Blvd., Dallas, Tex., LB **$105,206**, Elm Fork Water Plant, 2 sand water wells, DALLAS, TEX. City, City Hall, Dallas, Tex. Bids Nov. 26. CD 12/1/55.

Fairbanks-Morse Co., 600 S. Michigan Ave., Chicago, Ill., LB **$114,784**, est. $110,000, three pumping units at Gainesville Plant for Red River (56-217), DALLAS, TEX. City, City Hall, Dallas, Tex. Bids Nov. 23.

City, City Hall, Galena, Tex. Own Forces. **$75,000**, street repairing, rehabilitation work, GALENA PARK, TEX. CD 10/19.

† **L. S. & T. Constr. Co.**, Box 597, Denison, Tex., LB **$403,115**, est. $393,325, air force dining hall, street intersection, paving, underground utilities, Perrin Air Force Base, Inv. ENG-34-066-57-9, SHERMAN, TEX. U. S. Eng., Box 61, Tulsa 2, Okla. Bids Nov. 28.

COLORADO—State Hy. Dpt., 4201 E. Arkansas St., Denver, Colo.,

Herren-Strong, Platteville, Colo., CA **$628,047**, est. $700,000 plant mixed asphaltic surf. 8.813 mi. at Craig, Proj. F 005-1 (2), Moffatt Co. Bids Nov. 30. CD 11/21.

BUILDINGS—LB & CA

▲ **General Electric Co.**, 1 River Rd., Schenectady, N. Y. CA turbo generator for Unit No. 2 Cohasset STEAM PLANT, COHASSET, MINN. Total Est. **$12,000,000**. Minnesota Power & Light Co., 30 W. Superior St., Duluth, Minn. Ebasco Services, Inc., 2 Rector St., New York, N. Y., consult. engrs. CD 12/3.
Riley Stoker Corp., 99 Neponset St., Worcester, Mass. CA boiler. (Cohasset, Minn.).

C. H. Peterson Constr. Co., 616 National Bldg., Minneapolis, Minn. CA **$736,400**, general constr. HIGH SCHOOL, east of Belt Line, north of Glenwood Ave., GOLDEN VALLEY (P.O. MINNEAPOLIS), MINN. Bd. Educ., Independent School Dist. No. 89, Grace Seed, clk., Golden Valley, Minn. CD 12/4, under LB.

Inter-State Heating & Plumbing Co., 2120 Washington St., Kansas City, Mo. CA **$163,000**. Contr. 10, power piping for POWER PLANT, IOLA, KAN. City, Iola, Kan. Burns & McDonnell Eng. Co., 95 and Troost Sts., Kansas City, Mo., engrs.;
Liebert Bros. Electric Co., Coffeyville, Kan., CA **$42,104**. Contr. 11, power wiring (Iola, Kan.).

▲ **Olson Constr. Co.**, 410 S. 7 St., Lincoln, Neb., CA Total est. **$30,000,000**. foundations for PLANT which will have 500,000 sq. ft. area, MILLARD, NEB. Western Electric Co., 195 Broadway, New York, N. Y. Peter Kiewit Sons Co., 1024 Omaha Natl. Bank Bldg., Omaha, Neb. has management contract. CD 3/8.

Manhattan Constr. Co., Muskogee, Okla., CA **$550,000**. VETERINARY MEDICINE CLINIC BLDGS. addn., STILLWATER, OKLA. Oklahoma A & M College, Stillwater, Okla. Philip Wilber & Assoc., Stillwater, Okla., archt. Bids Nov. 20, awarded Dec. 1. CD 11/14.

J. C. Evans, 1017 W. 34 St., Austin, Tex., CA Est. **$500,000**. CONVENT and CHAPEL, etc., 5½ acre tract, AUSTIN, TEX. Sister Servants of the Holy Ghost of Perpetual Adoration, c/o Sister Mary Leonarda, Mount Grace Convent, 1438 E. Warre Ave., St. Louis 15, Mo. Walter Cocke, Jr., 1507 Franklin St., Waco, Tex., archt.-engr. CD 3/30/55.

▲ **Butcher & Sweeney Constr. Co.**, 806½ Taylor St., Fort Worth, LB **$2,395,850**. CIVIL COURTS BLDG., Courthouse Square, FORT WORTH, TEX. Tarrant Co., Court House, Fort Worth, Tex. Bids Dec. 5. CD 11/7.

Buckner & Pittman, 3121 N. Harwood St., Dallas, Tex. CA **$586,480**. FACTORY to manufacture corrugated containers, GARLAND, TEX. Pollock Paper Corp., 2236 S. Lamar St., Dallas, Tex.

Farnsworth & Chambers Co., Inc., P. O. Box 74, Houston, Tex., CA **$880,000**. CHURCH and roof garden addn., HOUSTON, TEX. First Baptist Church, 1020 Lamar St., Houston, Tex. Bids Sept. 12. CD 10/10, under LB.

Schneider Constr. Co., Box 13157, Houston, Tex., CA **$95,000**. mechanical GARAGE, HOUSTON, TEX. Schneider Constr. Co., 701 Waugh Dr., Houston, Tex.

▲ **Austin Building Co.**, 1000 Singleton St., Dallas, Tex. LB **$1,550,409**, general constr. incl. lines and earthwork for 66,000 kw POWER PLANT, MISSION, TEX. Central Power & Light Co., 120 Chaparral St., Corpus Christi, Tex. Bids Nov. 28. CD 11/15.

Candoo Constr. Co., Inc., Box 14226, Houston, Tex. CA **$512,800**. JUNIOR HIGH SCHOOL, ROSENBERG, TEX. Lamar Consolidated School Dist., Rosenberg, Tex. Bids Nov. 27. CD 12/5, under LB.

Reid-Baldwin Constr. Co., Box 694, Wichita Falls, Tex. CA **$100,000**. PLANT addn., WICHITA FALLS, TEX. Coca Cola Co., E. A. Denny, 1512 Lamar St., Wichita Falls, Tex. CD 8/28.

A. A. & E. B. Jones, 1050 S. Jason St., Denver, Colo. CA **$742,916**, general constr. Sabin Grade SCHOOL, DENVER, COLO. School Dist. 1, 414 14th St., Denver, Colo. Bids Nov. 21, awarded Nov. 28. CD 12/3, under LB.

▲ **BMFT Constr. Co.**, 2010 Ave. C, Lubbock, Tex. LB **$1,280,000**. ELEMENTARY SCHOOL, AUDITORIUM, BOILER ROOM addn., LOVINGTON, N. M. Lovington Municipal Bd. Educ., School Dist. No. 1, Lea Co., Lovington, N. M. Bids Nov. 27. CD 11/19.

FAR WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

December 20 Arizona

STREETS AND ROADS

December 12, 13 California

† **Calif., Vallejo**—SEWAGE DISPOSAL FACILITIES—BA 1/16—Dist. P. Wks. Office, 12th Naval Dist., San Bruno, sewage disposal facilities, Naval Ammunition Depot and Naval Shipyard, Mare Island, NOy 91703, Spec. 50115. Plans deposit $200. CD 8/18/55.

BUILDINGS—BA

▲ **Calif., Stockton**—HIGH SCHOOL—BA 12/28—Lincoln Unified School Dist., 818 Lincoln Rd., 1 story, frame, stucco, Lincoln High School. $1,000,000. Plans deposit $50. Dana D. Carrough, 205 Lincoln Center, archt. CD 11/20.

▲ **Calif., Hawthorne**—HIGH SCHOOL—BA 1/3—Centinela Valley Union High School Dist., 365 Hawthorne Way, Hawthorne High School addn. $1,266,463. Flewelling & Moody, 766 Colorado Blvd., Pasadena, archts. CD 9/17.

▲ **Wash., Everett**—COLLEGE—BA 1/14—School Dist. No. 2, seven 1 and 2 story bldgs., 134,000 sq. ft. frame constr. for Junior College, $1,712,211. Plans deposit $100. H. W. Hall, 402 Commerce Bldg., archt. CD 11/28.

† **Ore., Coos Head**—GARAGE, etc.—BA 1/15—P. Wks. Officer, 13th Naval Dist., Naval Station, Seattle, Wash., rein.-con. personnel, special services garage and other bldgs. Plans deposit $150.

HEAVY CONSTRUCTION—LB & CA

† **James Laffel & Co.**, 426 East St., Springfield, O. CA **$190,000**. Schedules 1 and 2, one 2,000 hp, two 2,900 hp vertical-shaft, hydraulic turbines for Wanship and Gateway power plants, Weber Basin Proj., Spec. DS 4712, UTAH. Bureau Reclamation, Dpt. Interior, Denver Federal Center, Denver, Colo. Bids July 17, awarded Nov. 28. CD 7/26, under LB.

Thayn Constr. Co., 2021 E. 2700 South, Salt Lake City, Utah, LB **$427,387**, drainage pipe lines, grading for taxiways, apron for new terminal area, Salt Lake City Municipal Airport, SALT LAKE CITY, UTAH. Bd. Comrs., Salt Lake Co. Herman J. Hogensen, city recdr., City-County Bldg., Salt Lake City, Utah. Bids Nov. 27. CD 2/1/55.

▲ **General Electric Co.**, Public Service Bldg., Portland, Ore. LB **$9,870,000**. (3 bidders) 6 generators, The Dalles Dam, Wasco Co., CIVENG-35-026-57-85. OREGON. U. S. Eng., 628 Pittock Block, Portland, Ore. Bids Dec. 4. CD 10/10.

▲ **CALIFORNIA**—State Dpt. P. Wks., 1120 N St., Sacramento,
Calif.—**E. L. Yeager Co., Yeager Constr. Co., Bert Altfillisch, Altfillish Constr. Co. and Lowe &**

Watson, P.O. Box 87, Riverside, Calif. CA $1,464,735. constr. 8.5 mi. US 66 on new alignment between south city limits of Needles and 3 mi. west of Colorado River, incl. 8 bridges, San Bernardino Co., Calif.—**Winston Brothers Co.**, 1532 S. California Ave., Monrovia, Calif. CA $3,361,359. grading, paving 5.7 mi. Santa Ana Freeway between 0.2 mi. south of Laguna Canyon Rd. and 0.3 mi. north of Browning Ave., constr. 7 bridges, 2 pumping plants to provide 4-lane divided hy., Orange Co. Bids Nov. 15, awarded Nov. 30. CD 11/19, under LB.

▲ **CALIFORNIA**—State Div. Hys., 1120 N. St., Sacramento,

Madonna Constr. Co., P. O. Box 910, San Luis Obispo, Calif., CA, $1,116,474, grading, paving 3.1 mi. US 101 and constr. 3 bridges to provide 4-lane divided hy. between 2 mi. south of San Miguel and south boundary of Camp Roberts, San Luis Obispo Co. Bids Nov. 21, awarded Nov. 29. CD 11/28, under LB.

▲ **CALIFORNIA**—State Div. Hys., 1120 N. St., Sacramento,

Calif.—**H. Earl Parker, Inc.**, 12 and F Sts., Marysville, Calif., LB $720,030 (6 bidders) grading, surf. 5.8 mi. Sign Rte. 88 between Red Lake and 1.5 mi. east of Blue Lakes Rd., Alpine Co.;

Calif.—**Tumblin Co.**, 2901 H St., Bakersfield, Calif., LB $672,346 (3 bidders) grading, surf. 1.4 mi. US 99/466 and constr. 2 bridges and bridge extens. between 0.6 mi. south and 0.8 mi. north of Famoso Underpass, Kern Co. Bids Nov. 28. CD 11/5.

▲† **James Bettancourt**, 125 S. Linden Ave., San Francisco, Calif., LB $3,475,000 (5 bidders) constr. electronic and electronic overhaul bldg. and hangar bldg., (power generator, heating and ventilating, bridge cranes, sewers, concrete and sheet metal work, etc.) (2nd Increment), Alameda Naval Air Station, NBy 6681 ALAMEDA, CALIF. Dist. P. Wks. Office, San Bruno, Calif. Bids Oct. 31. CD 10/10.

† **Joseph Bettancourt**, 125 S. Linden Ave., South San Francisco, Calif. CA $557,159. aircraft cleaning shelter, L-shaped, concrete slab constr., hangar type bldg., aircraft parking area, Alameda Naval Air Station, NOy 91650, Spec. 50071, ALAMEDA, CALIF. P. Wks. Office, 12th Naval Dist., Design Div., San Bruno, Calif. Bids Oct. 17, awarded Nov. 28. CD 10/31, under LB.

G. E. Kerns Constr. Co., 5574 Atlantic Ave., Long Beach, Calif., CA, $518,546, est. $500,000, sanitary sewers in Annexations 13, 15 and 17, COSTA MESA, CALIF. Costa Mesa Sanitary Dist., City Hall, 111 E. 20 St., Costa Mesa, Calif. Don Southworth, 136 Rochester St., Costa Mesa, Calif., engr. Bids Nov. 21.

Bd. Supervs. Los Angeles Co., Hall of Records, Los Angeles, Calif., cancelled bids to have been opened Nov. 28, site clearance and excavation for Hall of Administration, Spec. 1671 R-2, Cap. Proj. 7065 LOS ANGELES, CALIF. Est. $500,000. CD 11/8.

Harvey A. Nichols Co., 926 E. Slawson Ave., Los Angeles 11, Calif. LB $258,300. (4 bidders) general constr., 1 story, 32,700 sq. ft. livestock exhibit bldg., 48th District Agricultural Assn., LOS ANGELES, CALIF. State Div. Architecture, 1100 S. Grand Ave., Los Angeles, Calif. Bids Nov. 28. CD 11/7.

† **Paul V. Pollock & John G. Frankel**, P. O. Box 1690, Ventural, Calif., LB $723,770, est. $900,000 (4 bidders) pavement land lighting facilities, Oxnard Air Force Base, ENG-04-353-57-36. OXNARD, CALIF. U. S. Eng., 751 S. Figueroa St., Los Angeles, Calif. Bids Nov. 29. CD 11/8.

The Fay Improv. Co., 101 Carolina St., San Francisco, Calif. LB $269,852. (4 bidders) remove track and pavement, reconstr. pavement, SAN FRANCISCO, CALIF. City and San Francisco Co., c/o Director P. Wks., City Hall, San Francisco, Calif. CD 11/13/47.

Michael Murphy, Jr., 308 Upper Terrace, San Francisco, Calif. LB $63,109. lay 16 in. c.i. main in Franklin St., between Market and Ellis Sts., Contr. 785, SAN FRANCISCO, CALIF. City and San Francisco Co., P. Utility Comn., City Hall, San Francisco, Calif. CD 2/5/45.

Abbett Electric Co., 85 Federal St., San Francisco, Calif. LB $124,192. (3 bidders) install underground feeder cable, trolley poles and modify trolley overhead, Contr. 449, SAN FRANCISCO, CALIF. City and San Francisco Co., P. Utilities Comn., City Hall, San Francisco, Calif.

M-D Corp., 5887 Marigold Dr., Oakland, Calif. Owner Builds. $200,000. constr. parking lot on 3-lots at Miner Ave. and California self-service parking for 200 cars, double deck parking with ramps and elevators, STOCKTON, CALIF.

BUILDINGS—LB & CA

Hal Grammer Constr. Co., 3401 Flower Rd., Phoenix, Ariz., LB $617,775. constr. new SCHOOL PLANT, 3rd Ave. and Ocotello, PHOENIX, ARIZ., Madison School Dist., Phoenix, Ariz. Bids Nov. 29.

Walker & Florence, 319 E. Champion St., Bellingham, Wash. CA $916,576. 2 story, 78 bed HOSPITAL, MOUNT VERNON, WASH. Public Hospital Dist. No. 1, Mount Vernon, Wash. Bids Nov. 27. CD 12/3, under LB.

Leavitt, Chandler & Co., Bellevue, Wash., LB $460,000 (6 bidders) general contract 46,700 sq. ft., frame, masonry East Junior HIGH SCHOOL, S. 188 St. and 42 Ave. S., SEATTLE, WASH. Highline School Dist. 401, 253 S. 152 St., Seattle, Wash. Bids Nov. 27. CD 11/8.

▲ **Johnson, Busboom & Rauh**, N. 601 Cedar St., Spokane, Wash. CA $2,228,669. general constr., 5 story, 100,000 sq. ft. OFFICE, SPOKANE, WASH. Washington Water Power Co., W. 825 Trent St., Spokane, Wash. Grand total $3,499,800. Bids Oct. 30. CD 10/10.

▲ **Warren, Little & Lund**, W. 120 Second St., Spokane, Wash. and **J. Smyth Plumbing & Heating Co.**, N. 216 Division St., Spokane, Wash. CA $784,668. mechanical work (Spokane, Wash.);

Power City Electric Co., N. 920 Howard St., Spokane, Wash. CA $486,463. electrical work (Spokane, Wash.).

▲ **General Investment Co.**, Longview, Wash., CA, $1,559,443, construct and finance 110 unit family HOUSING, McChord Air Force Base, Inv. 57-30, TACOMA, WASH. U. S. Eng. 4735 E. Marginal Way, Seattle 4, Wash. Bids Nov. 7. CD 11/14, under LB.

▲ **John E. Branagh & Son**, 42 LaSalle Ave., Piedmont, Calif. LB $1,743,115. general constr. Washington Twp. HOSPITAL addn., 1 story to present 2 story bldg. now under constr., Type 1 constr. rein.-con., near Niles, CENTERVILLE, CALIF. Washington Township Hospital Bd. Directors, Washington Twp., Centerville, Calif. Bids Nov. 2. CD 11/7.

▲ **O. L. Carpenter**, 8095 Imperial Blvd., Lemon Grove, Calif., LB $1,703,010 (4 bidders), HIGH SCHOOL, GROSSMONT, CALIF. Grossmont Union High School Dist., Grossmont High School, Grossmont, Calif. Terluf Brydegaard, 1634 6 Ave., San Diego, Calif., archt. Bids Nov. 20.

† **Swinerton & Walberg**, 1723 Webster St., Oakland, Calif. LB $697,000 (7 bidders) furnish and erect HIGH-BOY CENTER section exten. from bldg., add 2 wings, with partial mezzanine Bldg. 102, Increments 5 and 6, near LIVERMORE, CALIF. U. S. Atomic Energy Comn., c/o Div., Eng. Div., 518 17th St., Oakland, Calif. CD 10/15.

▲ **S & S Constr. Co.**, 1750 S. La Cienega Blvd., Los Angeles, Calif. Owner Builds. $1,231,900, 112 frame, stucco DWELLINGS, LONG BEACH, CALIF.

A. S. Holmes & Sons, 9300 "G" St., Oakland, Calif. LB $110,500. ladder assembly SHOP, OAKLAND, CALIF. Listo Pencil Corp., 1925 Union St., Oakland, Calif.

R. J. Daum Constr. Co., 12537 S. Cerise Ave., Hawthorne, Calif., LB $609,600 (9 bidders) general constr. KITCHEN alterations, addns., Patton State Hospital, PATTON, CALIF. State Div. Architecture, 1100 S. Grand Ave., Los Angeles, Calif. Bids Nov. 28. CD 10/30.

Skyline Materials, Inc., P.O. Box 278, Belmont, Calif. Owner Builds. $100,000. asphalt PLANT, Bayshore Hy., SAN CARLOS, CALIF.

Burgener-Tavaraco, 2150 Silverado St., LaJolla, Calif. Owner Builds. $735,550, 56 frame, stucco DWELLINGS, Glen Oaks tract, SAN DIEGO, CALIF.

Cahill Bros. Co., Inc., 350 Sansome St., San Francisco, Calif., LB $985,000. 6 story bsmnt., rein.-con. OFFICE, Kearny and Sacramento Sts., SAN FRANCISCO, CALIF. Kearny-Sacramento Co., c/o contractor Felix H. Spitzer, 268 Market St., San Francisco, Calif., engr.

W. C. Garcia & Assocs., 792 Pineview Dr., San Jose, Calif. Owner Builds. $432,000. 42 HOMES, Venn, Verndale, Braham and Carlton Sts., SAN JOSE, CALIF.

Latter Day Saints Church, 34 Cleaves Ave., San Jose, Calif. Owner Builds. $400,000. CHURCH ASSEMBLY BLDG., 1340 Cherry St., SAN JOSE, CALIF.

▲ **MacIsaac & Menke Co.**, 3440 E. 14 St., Los Angeles, Calif., CA $2,000,000. foundation for 422x603 ft. FACTORY, 2701 S. Harbor Blvd., SANTA ANA, CALIF. Standard Pressed Steel Co., 815 Sepulveda Blvd., El Segundo, Calif. Awarded Nov. 28. CD 10/12.

▲ **Williams & Burrows, Inc.**, 500 Harbor Blvd., Belmont, Calif., CA $4,559,870, Santa Clara County HOSPITAL addn., SANTA CLARA, CALIF. Santa Clara Co., Court House, Santa Clara, Calif. CD 10/11, under LB.

Forsberg & Gregory, 124½ W. State St., Redlands, Calif. CA $556,516, Victory Valley HIGH SCHOOL addn. VICTORVILLE, CALIF. Victor Valley High School Dist., Victorville, Calif. Bids Oct. 23. GD 11/2, under LB.

Wesco Building Co., Inc., 338 S. Glendora St., Los Angeles, Calif. CA $344,500. 26 stucco DWELLINGS, WEST COVINA, CALIF. Forever Homes, 338 S. Glendora St., Los Angeles, Calif. Awarded Nov. 27.

▲ **Parkside Constr. Co.**, 13041 Wright St., Garden Grove, Calif. CA $1,367,300. 121 DWELLINGS, Tract 3071, WESTMINSTER, CALIF. Brighton & Neakire Development Co., 7825 Westminster Ave., Westminster, Calif. Carlson & Middlebrook, 13041 Wright St., Garden Grove, Calif., archts. Awarded Nov. 27.

CANADA

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS
STREETS AND ROADS
December 19, January 9 Ontario

Que., St. Romuald—Bids Asked—Municipality of St. Romuald, aqueduct. $150,000. Marc Gilbert, 31 rue McMahon, Quebec City, engr.

BUILDINGS—BA

▲ **Ont., Toronto**—BA 12/17—Scarsborough Bd. Educ., 1650 Kingston Rd., 2 story, 250x350 ft., brick Collegiate, incl. shop, home economics room, 3 laboratories, gymnasium-auditorium, etc. Warden Ave. and St. Clair Ave. $1,000,000. Plans deposit $50. Carter, Coleman & Rankin, 2201 Kingston Rd., Zone 13, archts. CD 12/15/54.

▲ **Ont., Toronto**—APARTMENT—BA 12/18—Central Mortgage & Housing Corp., 40 Eglinton Ave. E., cutting, bending and supply of reinforcing steel for two 14 story apartments, Regent Park south. Total est. $10,000,000. Plans deposit $100. Page & Steele, 72 St. Clair Ave. W., archts. H. I. Stricker, co owner, regional engr. CD 7/27/53.

▲ **Ont., Toronto**—OFFICE—BA 1/9—Shell Oil Co. of Canada, Ltd., 25 Adelaide St. E., superstructure for 12 story office bldg., 64x200 ft. tower sect. resting on T-shaped ground floor, University Ave. Total est. $4,500,000. Marani & Morris, 1250 Bay St., archts. CD 2/24.

HEAVY CONSTRUCTION—LB & CA

ONTARIO—Opt. Hys., Parliament Bldgs., Toronto,

Northern Constr. Ltd., P.O. Box 904, Bracebridge, Ont. CA $889,822. grading Queen Elizabeth Hy. southerly half of south approach to Burlington Bridge from Windermere cut-off northerly 1.02 mi., Burlington. CD 12/6, under LB.

Municipality of Metropolitan Toronto, 67 Adelaide St., E., Toronto, Ont., rejected bids Nov. 19, 5,832 ft. 4x5 ft. concrete sewer in tunnel, Hillhurst Blvd. from Cortleigh Blvd. to Bathurst St., TORONTO, ONT. LB $939,000. Will re-advertise. CD 11/28, under LB.

Schwenger Constr. Ltd., 1255 Beach Rd., Hamilton, Ont., CA $916,000, 4,529 ft. storm trunk sewers in tunnel 7 ft. and 7 ft. 6 in. diam., Beechmount St., TORONTO, ONT. Municipality of Metropolitan Toronto, 67 Adelaide St. E., Toronto, Ont. Bids Nov. 19, awarded Nov. 26. CD 11/28 under LB.

Byers Constr. Co., Ltd., 5675 Upper Lachine Rd., Montreal, Que., CA Est. $400,000. hangar, Municipal Airport, ST. JOHNS, QUE. Aircraft Industries of Canada, Ltd., Municipal Airport, St. Johns, Que. Colin H. Copeman, 1117 St. Catherine St. W., Montreal, Que., archt. deStein & McCutcheon, 4147 Sherbrooke St. W., Montreal, Que., engrs. Awarded Nov. 26. CD 11/19.

BUILDINGS—LB & CA

Ellis-Don, Ltd., Box 852, London, Ont., LB $645,000 (6 bidders) 2 story, bsmt., 104x156 ft., steel square rein.-con. columns, etc. FEDERAL PUBLIC BLDG., poured concrete fdn., ST. THOMAS, ONT. Dpt. P. Wks., Hunter Bldg., Ottawa, Ont. Bids Nov. 28. CD 10/22.

Head Constr. & Supply Co. Ltd., 655 Tecumseh Rd. W., Windsor, Ont., CA $831,683 (6 bidders) 96 single family DWELLINGS, WINDSOR, ONT. Central Mortgage & Housing Corp., 40 Eglinton Ave. E., Toronto, Ont. Bids Nov. 20, awarded Nov. 23. CD 11/2.

G. Archambault, Ltee., 5215 Van Horne Ave., Montreal, Que., LB $360,000. (5 bidders) 2 story, no bsmt., 44x247 ft. brick, stone JUVENAT, CHAPEL, etc., ST. HENRI DE MASCOUCHE, QUE. Freres St. Gabriel, St. Henri De Mascouche, Que. Bids Oct. 30. CD 10/29.

▲ **McCallum-Hill & Co., Ltd.**, 113-117 McCallum-Hill Bldg., Regina, Sask. Owner Builds. $2,500,000. 1,000,000 sq. ft. SHOPPING CENTER, parking space for 1,000 cars, Broad St., 20-acre site, REGINA, SASK. H. K. Black, Black Block, Regina, Sask., archt. CD 5/8.

ALASKA

HEAVY CONSTRUCTION—LB & CA

† **S. S. Mullen, Inc.**, 621 9th Ave. N., Seattle, Wash. CA $577,590, est. $661,616. (4 bidders) stabilization of runway shoulders, Elelson Air Force Base, Inv. 57-44, ALASKA. U. S. Eng., Anchorage, Alaska. Bids Nov. 27. CD 12/4, under LB.

† **S. S. Mullen, Inc.**, 621 9th Ave. N. Seattle, Wash. LB $620,553 (3 bidders) Hoadley Creek, Carlanna Creek, Park-Harris bridges and Sunnyside Creek culvert, part of waterfront arterial proj., structural steel and rein.-con. bridges on concrete piling, Proj. Aaa 50-A-208, KETCHIKAN, ALASKA. Alaska P. Wks., Dpt. Interior, 125 W. 3 St., Juneau, Alaska. Bids Nov. 28. CD 10/25.

LATIN AMERICA

HEAVY CONSTRUCTION—BA

▲ **Argentina**—BA About 3/29—Yacimientos Petroleos Fiscales, Buenos Aires; at Argentine Govt. Oil Fields Comm. in United States, 350 5th Ave., N. Y., U. S. A., in Buenos Aires and at Duesseldorf, Germany, 1,150 mi. 24 in. gas line from Camp Duran to Buenos Aires; 930 mi. oil line from Duran field to Port San Lorenzo; 625 mi. 12¾ in. oil line from Lujan de Cuyo field in Mendosa to Buenos Aires. $250,000,000. CD 4/27.

AMERICANS ABROAD

HEAVY CONSTRUCTION—BA

† **Bermuda**—FACILITIES—BA 12/19—U. S. Eng., 346 Broadway, New York 13, N. Y., U.S.A., constr. misc. facilities, Group I, incl. 1 story approx. 6,800 sq. ft. chapel; 1 story, approx. 8,500 sq. ft. steel, concrete block NCO club; 1 story 5,700 sq. ft. steel frame, rein.-con., roof and concrete block airmens' club; three 1 story approx. 12,345 sq. ft. rein.-con. block bachelor officers' quarters; 1 story approx. 26,600 sq. ft. steel, concrete block airmen's dining hall; 1 story, 400 sq. ft. steel frame, concrete block Tacan, AN-URN-3, tower fdns. etc.; Kindley Air Force Base, ENG-30-347-57-10. Plans deposit $50. Extended date. CD 11/1.

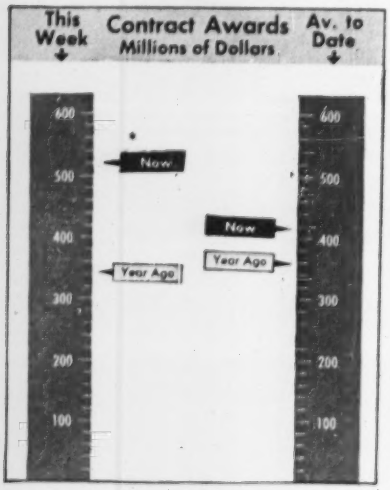
BUILDINGS—LB & CA

▲ **AMF Atomics, Inc., Div. American Machinery & Foundry Co.**, 261 Madison Ave., New York, N. Y., U. S. A. and **Mitsubishi Group**, Tokyo, Japan. CA 20 megawatt heavy water type reactor at research center, TOKAI, JAPAN. Japan Atomic Energy Institute, Tokai, Japan.

(Proposal Advertisement see pp. 83 to 85)

Construction Scoreboard

Activity this Week



* 6-day week

AMOUNT OF CONTRACTS LET

By Ownership	This Week*	Cum. 50 wks 1956	Chge %
	millions		
Federal	$33.0	$1,637.1	+3
State and Municipal	122.8	6,304.6	+22
Total Public	155.8	7,941.7	+18
Total Private	372.3	13,031.4	+16
U. S. Total	$528.1*	$20,973.1	+17
By Type of Work			
Waterworks	$6.2	$347.3	+16
Sewerage	10.1	566.3	+50
Bridges	12.3	610.4	+19
Highways	35.4	2,373.0	+16
Earthwork, Waterways	16.6	705.4	+34
Buildings:			
Public, Excl. Housg.	52.0	2,029.7	+21
Public Housing	14.0	315.5	+29
Private Housing	99.1	5,184.1	−13
Commercial	69.0	1,920.8	+20
Industrial	118.3	5,146.8	+85
Unclassified	95.1	1,773.8	−9
U. S. Total	$528.1*	$20,973.1	+17

* 6-day week.

NOTE: Minimum size projects included are: Waterworks and waterways, $44,000; other public works, $73,000; industrial buildings, $93,000; other buildings, $344,000.

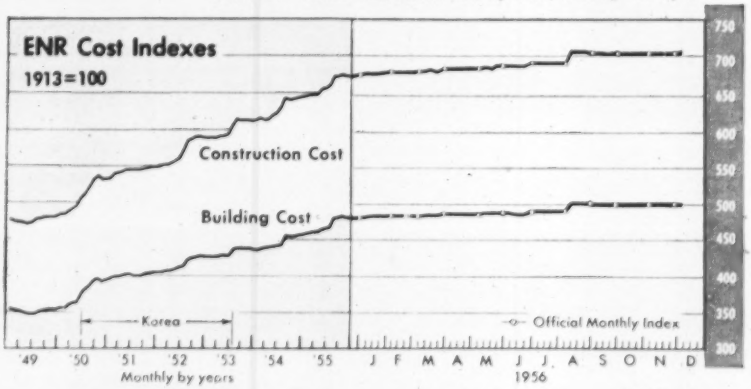
NEW CAPITAL FOR CONSTRUCTION

	Week of Dec. 6	Cum. 49 wks 1956	Chge '55-'56 %
	millions		
Corporate Securities	$59.6	$4,488.7	+28
State and Municipal:			
All Except Housing	42.1	4,315.6	−6
Housing	...	91.1	−2
Federal Loans	1.1	135.1	+9
Federal Aid	...	1,070.0	+25
Total Nonfederal	$102.8	$10,100.5	+10
Federal Appropriations:			
In U. S.	$...	$3,460.3	+2
Outside U. S.	...	15.9	−81
Total New Capital	$102.8	$13,576.7	+8

Cost Indexes as of Now

ENR INDEXES (1913=100), 20-cities' average	Week of Dec. 6 1956	% Change from Nov. 15 1956	% Change from Dec. 8 1955
Construction Cost	705.80	+0.3	+4.9
Building Cost	500.16	−0.02	+4.5

To convert above indexes to 1926=100: Divide Construction Cost by 2.080; Building Cost by 1.850.
1949=100: Divide Construction Cost by 4.770; Building Cost by 3.518.



CONTRACTS AWARDED

	November 1956 (millions)	11-Mos. (millions)	% Change from 1955 Nov.‡	% Change from 1955 11-Mos.‡
Total U. S., ENR reported	$1,735.7	$20,121.7	+1	+16
Private	976.2	12,451.9	−19	+13
Public	759.5	7,669.8	+50	+20
State and Municipal	641.8	6,102.0	+74	+26
Federal	117.7	1,567.8	−14	+0.4
ENR Volume Index, 1913=100	542	675	−3	+12

NEW CONSTRUCTION CAPITAL

	November (millions)	11-Mos. (millions)	% Change from 1955 Nov.‡	% Change from 1955 11-Mos.‡
Total U. S.	$830.4	$13,473.9	−59	+8
State and Municipal Bond Sales	481.6	4,364.6	−56	−5
Corporate Security Sales	348.8	4,429.1	−35	+30
Federal Loans, Aid (nonfederal work)	0	1,204.0	−100	+21
Federal Appropriations (federal work)	0	3,476.2*		−2

‡Based on average week. *Includes funds for outside U.S.

MATERIALS SHIPMENTS

	Unit	Aug. (A) Sept. (S) Oct. (O) 1956	Cum. (No. of Mos.) 1956	Percent Change from Year Ago Mo.	Cum.
Portland Cement, Bur Mines	thous bbls	33,224(A)	206,851(8)	+5	+6
Conc Paving Awards, PCA	thous sq yd	7,302(O)	73,271(10)	+22	−5
Fabricated Structural Steel	thous tons	288(O)	2,632(10)	+1	+6
Bookings, AISC	thous tons	291(O)	3,270(10)	−6	+10
Reinforcing Bars, Net, AISI	thous tons	234(S)	1,778(9)	+26	+13
Lumber, NLMA	mil fbm	2,871(S)	28,005(9)	−17	−8
Orders	mil fbm	2,887(S)	27,647(9)	−15	−11
Production	mil fbm	3,147(S)	28,571(9)	−11	−4
Douglas Fir Plywood, DFPA, ⅜" basis					
Production (aver per week)	mil sq ft	107.1(O)	99.6(10)	+5	+6
Orders (average per week)	mil sq ft	121.3(O)	96.8(10)	+34	+4
Clay Products, Bur Census					
Brick, Ungl, Common, Face	mil bri	641.4(A)	4,610.0(8)	−6	−1
Vitrified Clay Sewer Pipe	thous tons	187.4(A)	1,249.4(8)	−3	+1
Structural Tile, Unglazed	thous tons	63.4(A)	459.6(8)	−21	−18
Asphalt Products, Bur Census					
Asphalt Roofing	thous sales sqs	5,724(S)	46,866(9)	−6	−5
Asphalt Siding	thous sales sqs	425(S)	896(9)	−7	−5
Aluminum, Wrought, Net, Bur Census					
Sheet and Plate (non-heat treatable)	mil lbs	77.7(S)	824.9(9)	−14	+7
Wire and Cable	mil lbs	22.5(S)	230.5(9)	−3	+21
Extruded Shapes (soft alloys)	mil lbs	48.4(S)	484.5(9)	−15	+4

EMPLOYMENT AND FAILURES

Contract Const Employment, BLS	thous	3,282(O)	3,024(10)**	+8	+9
Contractor Failures, Dun & Bradstreet					
Number		182(O)	1,480(10)	+34	+30
Liabilities	thous	$11,145(O)	$81,555(10)	+28	+23

**Average per month

Haphazard Planning Scored

A four-point sequence of proper public works planning for future needs was outlined to governors and public works administrators from six North Central states at a special meeting in Minneapolis on Dec. 4.

The outline, approved last June by an advisory committee on state and local public works, was presented by Maj. Gen. J. S. Bragdon, special assistant to President Eisenhower on public works planning.

• **Too many planners?**—Prefacing his planning outline, General Bragdon told the meeting that the future of the nation's 173 metropolitan areas is at stake. He said that 97% of the nation's population increase in the past five years came in these metropolitan areas.

Public works planning problems are concentrated in these high-density urban areas, Bragdon commented. He pointed out that 57% of the nation's total population lives on only 7% of the land area.

This concentration of population has brought about a multitude of new problems with literally thousands of governmental agencies, at all levels, charged with the solution of public works problems. Many of these agencies have overlapping authority and jurisdiction, he said.

• **Measured needs**—Bragdon's proposed planning sequence is based on the concept of "measured needs." He calls this a "rational and practical" method for use by government at any level in determining public works requirements.

Here's how Bragdon's four-stage planning concept would work:

• Broad, overall needs, that could be determined, would be measured first over a long period of time—20 to 50 years.

• Balanced long-range plans then would be prepared to cover a 15 to 20 year span.

• Then, plans would be drafted for specific construction projects for a five-year period.

• Finally, specific projects would be selected annually or biennially for inclusion in the five-year program.

• **Criteria**—To determine priorities in these programs, Bragdon suggests such criteria as financial capability, "time urgency," and the extent to which existing facilities could be utilized through improvements or additions.

The President's advisor suggested that comprehensive public works planning organizations be established, responsible to chief executives of any given subdivision of government. At the state level, for example, the planning officials would be directly responsible to the governor.

Few states or cities now have such organizations, Bragdon said. Only Maryland's planning unit is more than 20 years old; Arizona and California have just recently authorized such organizations.

• **Streets and shelters**—Other speakers at the special six-state public works meeting included Val Peterson, Federal Civil Defense Administrator; Henry A. Radizowski, maintenance branch chief for the federal Bureau of Public Roads; and Harold Plummer, Wisconsin State Highway Commissioner.

Radizowski told the meeting that state highway departments must initiate route determinations.

Minnesota's State Highway Department drew double praise from the BPR official, first for the manner in which it has handled interstate highway routing and for its use of an electronic computer to help overcome a shortage of engineers in programming the new federal-aid work.

• **Tools for survival**—Civil Defense Administrator Peterson told the conference that space and shielding are the nation's best tools for survival. With their balanced use, the U. S. could, in time of war, save "millions who would otherwise die", Peterson said.

The next Congress should authorize at least a "limited start" on a public shelter program, Peterson said, incorporating shelter areas in all new public buildings, including schools and hospitals.

He also suggested federal-city matching fund arrangements to finance additional protection against bomb blast and radioactive fallout through construction of dual-purpose underground garages. Each city would recover its share of the costs from peacetime rental of parking space, Peterson said.

FHA Boosts Interest Rate to 5%

The Federal Housing Administration has raised the interest rate on FHA-insured home mortgages from 4½% to 5% in an attempt to bolster the sagging housing market.

In addition to the 5% interest, the borrower will continue to pay one-half of 1% as a premium for the FHA mortgage insurance.

Some prominent homebuilders, realtors and lenders had advocated a raise in the FHA rate for several months, contending that FHA-insured mortgages could not compete with other investments when limited to a 4½% interest rate.

• **May help later**—Most housing experts agreed that the government's move will not have any effect until after the first of the year. Then, some effects will be felt if life insurance companies and pension funds allocate more funds to mortgages in their 1957 investment budgets.

The Administration hopes that these institutional investors will pour more money into housing now, to slow down the decline in housing starts, and perhaps even reverse the downturn.

FHA mortgages have been selling at discounts for more than a year. But, life insurance companies and other institutional investors found these discounts distasteful. They prefer to invest in 5% mortgages at little or no discount.

• **VA loans dry up**—But, the hike in the FHA interest rate brings with it some problems of its own. One is that for the next few months few lenders will make any housing loans for mortgages guaranteed by the Veterans' Administration. The reason is that the VA loans still carry the old 4½% interest rate; they won't be able to compete with the new 5% FHA rate.

While the FHA mortgage rate can be changed by the Administration, the VA loan rate can be changed only by Congress. And, Congress probably will approve such an increase reluctantly, if at all.

Opposition to such an increase already has been voiced by Ralph Stone, Benefits Director of the Veterans' Administration, other VA officials, and some congressmen, including Rep. Olin Teague and Rep. Ed Edmondson, both of whom are concerned with House legislation in the housing field.

If they succeed in blocking an increase in the VA mortgage rate, the VA home loan program undoubtedly will wither away. But, they may avoid that by agreeing to a VA interest rate boost—if the FHA program is liberalized extensively.

Try to Cut Costs

School financing group is appointed in New York

Governor Averell Harriman, of New York, has appointed a five-member committee to study ways of cutting financing costs for school construction in New York State.

Upstate school districts, with plans for $314 million worth of construction in the next two years, are "faced with the alternative of paying exorbitant interest costs or delaying" their plans, Governor Harriman said.

He pointed out that the average interest rate on New York's school construction bond issues has risen from 2.285% in 1952 to 4.3% in November of this year.

Among other steps, the committee will consider the possibility of making the state a fiscal agent for the marketing of school bonds.

State Comptroller Arthur Levitt was named chairman of the committee. Other members include Elliot V. Bell, former state superintendent of banks; Alvin C. Eurich, former president of the State University; Alicia Patterson, editor and publisher of Newsday, and Beardsley Ruml, former chairman of the Federal Reserve Bank of New York City.

Other sections of the nation shared some of New York's school financing problems last week, or contended with thorny local questions of their own.

Rising interest rates on municipal bond issues, a serious problem for the New York school districts, for example, also is being felt in Pennsylvania.

A new high for the interest rate on school construction bonds for any district in the Harrisburg area was set when the East Pennsboro Township School Authority's $1.9-million, 40-year serial revenue bonds were marketed with an interest rate of 4.81%. A syndicate headed by Ira Haupt Co., of New York, purchased the school construction bonds.

In the Greater Cleveland, Ohio, area, the Parma School District rejected the only offer it received for a $900,000 school construction bond issue—offered at an effective interest rate of 4.43%. This was taken merely as another indicator of the tight municipal bond market, which some Cleveland financial sources feel might delay public works projects planned for the entire Cleveland area.

Many Cleveland financial men feel it would be impossible to get a rate of less than 4% for municipal bond projects.

Florida, which was unable to sell a $9.3 million state-wide bond issue Nov. 27, still is trying to determine timing for rescheduling of the bond sale.

And, in Virginia, where the General Assembly last September passed a series of laws to block integration of schools, bond issues ran into serious trouble because of lawsuits testing the constitutionality of the state's allocation of school funds and also because of the present condition of the municipal bond market.

Hopewell, Va., for example, did not even get an offer for a $1-million bond issue. Another city, South Norfolk, rejected the only bid it received on a $520,000 issue because the offer called for a 4.99% interest rate.

The problems raised in marketing Virginia school bonds could seriously affect construction plans in a number of communities. Fairfax is faced with stoppage of all future school construction unless $3 million worth of bonds are sold this month, and $8 million by March 1. Alexandria plans a $1.5-million bond issue and Arlington nearly $4½ million.

Southern States Map New Drive for Industry

Governor Orval Forbus, of Arkansas, last week met with leaders from 14 southern states to initiate a stepped-up drive for industry.

A second meeting to detail specific recommendations has been scheduled tentatively for April or May in Atlanta.

Governor Forbus is chairman of the Industrial Development Committee of the Southern Governors Conference. He met with a technical advisory subcommittee.

Officials said the South's industrial problem largely lies in the fields of education and business finance.

Dr. Frank J. Sodday, president of the Southern Association of Science and Industry, said the South has only 22% of the country's financial wealth.

"Our most important resource in the South is our labor force," Sodday said.

Lease-Back With a Twist; Insurance Firm in New Role

For some time industry has used "lease-backs" to conserve working capital and to enjoy certain tax advantages. Generally, the company builds a new plant or office building, sells it to an insurance company or other institutional investor, and then rents it back under a long-term lease.

There is a new twist now on the lease-back story. Prudential Insurance Company of America has purchased land in Louisville, Ky., for a new one-story office building to house the firm's general offices in that city.

Prudential, normally cast in the role of owner in lease-back deals, now becomes a tenant.

State Loses More Money On Home Loan Program

Connecticut's home ownership mortgage program went approximately $961,000 deeper into the hole last week when the state sold its latest issue of short-term financing notes.

The resale of $49.3 million worth of one-year notes called for an interest rate of 2.7994%, while the mortgage loans to individuals carry an interest rate of only 1.5%.

Of the 1.5%, one-half of 1% goes to mortgage correspondents, while .15% represents the administrative cost for the program. In order to break even, therefore, the notes would have to sell at no more than .85%.

The ownership program was established by former Governor Chester Bowles, in 1950. Individuals could buy or build their own home by obtaining a mortgage through the state's program.

The mortgages also were linked with Federal Housing Administration or Veterans Administration insurance; the mortgage term could run as long as 30 years.

Mortgage loans of this type were set at a maximum of approximately $12,000. The original program authorized $60 million, and it was used by 6,040 families.

Today there are 5,900 such loans still outstanding.

"Honest Error" Conceded but Contractor Faces a Dilemma

Although convinced that the bidder made "an honest error" of $10,352 in his bid, the Seattle Board of Public Works has awarded an $89,091 contract to the Harold Kaeser Co. for construction of a storm sewer.

The firm said an error had been made in its calculations and it asked that its proposal be rejected. The board decided, however, that it has no authority to reject the low bid.

The contractor has three alternatives: Proceed with the contract, forfeit his bond, or seek relief in court.

Forfeiture of the bond would bar the company, which has been active in bidding on public works projects, from bidding on any city contract for a period of two years, according to Everett G. Henry, board secretary.

Dam Financing

Bonds delivered to pay for first stage of work on Rocky Reach Dam

The Chelan County Public Utility District of Wenatchee, Wash., last week delivered to investment houses, the bonds sold to pay for first-stage construction of Rocky Reach Dam on the Columbia River.

To get the money needed to finance initial construction, the PUD agreed to pay an effective interest rate of 4.918% for a $23.75-million bond issue.

"Financing of Stage One of Rocky Reach has been difficult due to rising interest rates and heavy demands on the existing pools of capital," L. J. Richardson, president of the Public Utility District, said. "However, we feel that this is the time for the project to go ahead."

Referring to Puget Sound Power & Light Co., which has an option to buy up to one-half of the 700,000 kw to be produced by the project, Richardson declared that the "PUD and Puget Power have worked diligently in an effort to obtain financing so the project can move ahead. Everyone has reached an accord, resulting in this bond offer."

The bonds, maturing in 1992, were delivered last week in New York to a syndicate of 44 investment banking houses headed by John Nuveen & Co., B. J. Van Ingen & Co., Halsey Stuart & Co., Blyth & Co. and Smith Barney.

This bond sale will enable the Public Utility District to award a $12-million contract for first-stage construction to Rocky Reach Dam Builders, a combine of the Arundel Corp., L. E. Dixon Co., Hunkin-Conkey Construction Co. and American Pipe & Construction Co.

Preliminary work has been under way since September under a provisional contract.

Industrial Enterprises Buys Steel Fabricator

Industrial Enterprises, Inc., has acquired the assets of the 57-year-old Vincennes Steel Corporation, of Vincennes, Ind., subject to approval of Vincennes stockholders.

Vincennes is one of the larger companies fabricating steel for bridges. It also has a growing business fabricating steel for buildings.

One advantage that Industrial Enterprises will have as a result of the merger is that facilities used for steel fabrication can be adapted to the manufacture of electrical traveling cranes in its Milwaukee Crane Division.

Construction Markets

An On-the-Spot Report From New Orleans

Three clouds—steel, money and land—dim the brightness of the current New Orleans construction scene and cast shadows into the future. But local planners and builders continue to work full time despite long delivery dates for some materials, tight credit and rising site costs.

Construction men in the area are too busy to worry about the near future.

General contractors, in particular, are trying to catch up with a work schedule disrupted this year by two major strikes, the national steel strike and a local ironworkers stoppage that lasted 10 weeks.

There is a steady stream of multi-million-dollar projects, the biggest of which is the $65-million Mississippi River Bridge. Numerous contracts for both public and private work are scheduled to come up in the next few months.

Early construction starts are planned for a large number of office buildings, shopping centers, housing developments and industrial plants.

These projects are bringing the problem of accelerating land costs.

Land values have been a recurrent problem in New Orleans proper because the city is bounded by Lake Pontchartrain on the north, the Mississippi River on the south and marshlands on the east. In the past, the only inexpensive land was across the river, on the so-called West Bank.

But, land values are rising rapidly there now. The new Mississippi River Bridge, scheduled for completion in March, 1958, has forced land prices up because of proposed highway links to the bridge and because the new span will provide a direct traffic connection across the river.

One example: An investor bought one acre of West Bank land 2½ years ago for $500. Recently, he rejected an offer of $15,000 for it.

In the city itself, office buildings now are rising on sites occupied previously by rundown commercial or residential properties.

On the West Bank, three shopping centers are in the planning stage. They carry an aggregate price tag of about $60 million. These centers reflect housing and traffic growth expected from the proposed West Bank Expressway and approaches to the Mississippi River Bridge.

Expressway development on the East Bank, in Jefferson Parish, a New Orleans suburban area, has prompted planning of several subdivisions along Veterans Memorial Highway.

When completed, Veterans Highway will serve as a link between the recently-completed Lake Pontchartrain Causeway and the eventual network of interchanges and expressways focusing at the new river bridge.

Industrial building is booming on both sides of the Mississippi River from New Orleans to Baton Rouge.

Kaiser Aluminum has a $70-million plant under way at Gramercy; Wyandotte Chemicals plans a $20-million plant at Geismar; and Olin-Mathieson has taken an option on a 2,900-acre site located near Donaldsonville.

Within 10 years, 200 miles of riverbank, from a point below New Orleans to Baton Rouge, will be solidly developed by industry, according to Robert W. French, director of the Port of New Orleans.

Homebuilding, as in other areas, appears to feel the pinch of tight credit more than any other construction activity in New Orleans. But developers haven't curtailed their operations drastically because of the credit squeeze.

Housing, with its attendant surge in shopping center construction, draws much of its strength from expressway developments.

In mid-November, bids were opened for initial work on the Acadian Thruway, a tollroad that will extend from Lutcher, northwest of New Orleans, across the Mississippi River and through 68 miles of swampland to connect with other traffic arteries to the west.

Construction also has an interest in some other important transportation developments.

The Port of New Orleans will spend $7 million for construction in 1957—and $72 million in 10 years.

And, engineers are making surveys on the Mississippi River-Gulf outlet to straighten the shipping route between New Orleans and deep water, and to provide sites for port and industrial development.

New Orleans is a busy construction market now—with big plans for the future.

Personnel:

Highway Technicians Upgraded

The California Division of Highways has added a new sub-professional Civil Service classification aimed at encouraging development of techniques who are not graduates of 4-year college-level courses in engineering. The new category —Highway Engineering Technicians— provides a clear path for advancement for high school or junior college graduates to Highway Department positions of substantial responsibility. Department officials have expressed the hope that this will help them meet their current need for 500 to 1,000 additional employees most of which will have to be recruited in sub-professional grades.

• Beginners' Range

The path of progression for technicians will start at Engineering Aid I (salary range—$281 to $341 per month) or at Engineering Aid II (salary range—$358 to $436 per month). The lower grade is for high school graduates with no highway experience. The upper grade is for someone with two years of pre-engineering work or completion of a special terminal curriculum that is currently being developed in California's extensive junior college system.

Next step would be the new Highway Engineering Technician grade (salary range—$415 to $505 per month). Progress to this grade would depend on the experience pattern of the individual but would require a minimum of two years as an Engineering Aid II or its equivalent. Most of the individuals in this Civil Service classification would be employed as construction inspectors, instrument men on survey parties, chief of party of small survey parties or in sub-professional design work.

• Rotate Assignments

There are higher grades that a technician can aspire to and normally expect to progress to. The next step is Assistant Highway Engineer (salary range—$481 to $584 per month), which for a technician requires a minimum of two years in the next lower grade. This category is also the second step of the ladder for college graduates who start as Junior Civil Engineers (salary range—$436 to $481 per month). Under the new system the Junior Civil Engineer category will now be restricted to college graduates who would normally stay in this group for an average time of a year and a half. For these people a compulsory rotation program is being set up that covers a two-year period. At the end of this time, each man will be given an assignment to the position for which he is best suited—unless, of course, he has already progressed to the next higher grade.

Next step above Assistant Highway Engineer for the individual who has obtained California registration as a civil engineer is Associate Highway Engineer (salary range—$584 to $710 per month). This classification is open to either the technician or the college graduate provided the registration certificate is obtained. And, basically, it is the bottom step on the ladder of administrative positions.

• Parallel Paths

However, for an individual who has not obtained registration but who is capable of greater responsibility there is the parallel rating of Highway Engineering Associate (salary range—$556 to $676 per month). This would normally be the terminal position for a technician. But, as soon as a person in this category gains registration, he can move over to the other comparable rating and can progress upward. Individuals in either the Highway Engineering Associate or Associate Highway Engineer classifications will normally be employed as resident engineers or as design squad bosses. Although there are, of course, many special assignments.

The Highway Department already has the Highway Engineering Associate rating. But an advancement Civil Service exam has only been given once and there are only about 70 in the classification. The plan is to give promotional examinations to this classifications at regular intervals.

Success of the program depends to a great measure on expansion of the terminal courses in engineering to be given by California junior colleges. State officials as well as the University of California's Institute of Transportation & Traffic Engineering are encouraging the junior colleges in every way possible to instigate such curricula. Some now exist and it is hoped that many more will be put in operation.

Business Briefs . . .

• **Cement shortage seen**—The federal highway program faces a national roadblock unless a cement shortage is relieved promptly, according to Edgar F. Kaiser, president of Kaiser Industries Corp. He warned that there was immediate need for further expansion of cement manufacturing facilities to meet the increasing roadbuilding demands. Kaiser's comment is significant: his corporation owns Permanente Cement Corp., largest on the West Coast.

• **Long-range school plan**—The Educational Finance Study Committee of the State of Michigan has proposed to Governor G. Mennen Williams that a $25-million per year fund be set up to meet school construction needs during the next 30 years. The program would commit the state to raise $25 million every year for 30 years to match local bond issues. The program would result in construction of an estimated 2,200 classrooms each year, the committee predicted.

• **Good investment**—The Delaware Memorial Bridge, sixth longest suspension span in the world, is little more than one-third paid for in just over three years. It was announced last week that bridge bonds will be totally amortized in the early 1960s. The original indenture covering the $45-million bond issue calls for retirement of the obligations by 1978.

• **New plant**—Link-Belt Co. will build a new plant in Montebello, Calif., about 10 miles east of downtown Los Angeles, to replace and expand its present facilities in Los Angeles. Completion of the plant is expected by November 1957.

• **Atom smasher**—The Colorado Planning Commission has approved expenditure of $250,000 by the University of Colorado to be matched with $1.5 million in funds from private sources to establish an atomic research center, including a cyclotron—an atom smasher. It would be built on the university campus at Boulder, 30 miles northwest of Denver.

• **Consistent voters**—For the third time in 11 months, voters of Oklahoma City turned down a $10.3-million bond issue for improvement of streets, bridges and airports.

• **Approve school**—Proposed financing for a $1.5-million school improvement program for the Milan area schools in Washtenaw, Monroe and Lewanee Counties, Mich., has been approved by the Municipal Finance Commission in Lansing. The bond issue will pay for a new high school, four elementary schools and three sites.

Shorter Workweek Questioned

Plumbers union sees little interest on the part of labor in a shorter workweek except as a possible source of overtime pay

The plumbers union takes a dim view of the growing interest in a shorter workweek. Its conclusions are these: Most workers are interested in more money, not in more leisure time; other goals, such as guaranteed sick benefits and a "worth-while income for retirement", are more important at the moment.

Speaking editorially in its monthly journal, the union contends that "as far as organized labor is concerned, by and large there is not very much negotiation for any shorter workweek than 40 hours—except insofar as the issue of overtime is concerned". The real purpose in negotiating anything less than a 40-hour week, it asserts, has been to get a pay increase through premium rates paid for hours worked in excess of those that have already been established by contract.

In 55 cities surveyed by ENR, for example, most of the building trades were reported to be on a 40-hour week. Notable exceptions exist on the East and West Coasts—such as New York City, Newark, Los Angeles and San Francisco—where a number of trades have won seven-hour and a few six-hour days with overtime pay computed in some instances at double time.

The plumbers reaction to a shorter workweek closely reflects some of the views expressed when the AFL-CIO held a confererence on working hours in September (ENR, Sept. 20,p.114). Economic rather than social considerations then appeared to be the principal reasons behind any drive for shorter hours. A reduction in hours also was seen as a means of sharing work if automation, increased productivity and technological improvements reduce employment opportunities—which was one of the arguments behind the recent demand of California carpenters for a seven-hour day. Later, Vice President Nixon gave a fleeting endorsement to the goal of a four-day workweek and Walter Reuther, president of the auto workers union, asked the Administration to support that goal by reducing the workweek of federal employees and by amending the Fair Labor Standards Act.

With this approach the plumbers disagree. They concede that "in tough times" shorter hours make it possible for work to be shared, but they contend "it is not true that if you cut hours by law you automatically put more people to work."

The plumbers suggest that "perhaps we are getting near the end of the line when it comes to the amount of time actually worked per week." They contend that workers want humane working hours, reasonable pay for overtime, paid holidays and paid vacations, but express the view that "when it comes to a few extra hours, (the average worker) would rather have the money than the time." Question still unanswered in the union's mind is: "Who wants a shorter workweek?"

Professional Units

Federal court sustains ESA challenge of NLRB policy

An affiliate of Engineers and Scientists of America has won the first round in a court test of the right of the National Labor Relations Board to set up mixed bargaining units of professional and nonprofessional employees. Last week, Judge Burnita S. Matthews of the U.S. District Court for the District of Columbia denied an NLRB motion to dismiss a complaint, filed by the Buffalo Section, Westinghouse Engineers Association, ESA, for a permanent injunction to compel the NLRB to conduct an election in a unit in which only professional employees would be represented. At the same time, the court granted the engineers' motion for a summary judgment. Part of the ESA victory was the court's conclusion that the action of the NLRB could be challenged in a District Court. The NLRB is expected to appeal the decison.

The action represents the first court test of the "predominantly professional" doctrine under which the NLRB has administered Sec. 9 (b) (1) of the Taft-Hartley Act, which provides that "the Board shall not decide that any unit is appropriate . . . if such unit includes both professional employees and employees who are not professional employees unless a majority of such professional employees vote for inclusion in such unit." Engineers Joint Council, which, along with the National Society of Professional Engineers, supported the position of ESA, said the issue "is a matter of major concern to the entire engineering profession."

In the Buffalo case, the NLRB refused to conduct a separate Sec. 9 (b) (1) election. The subsequent representation election resulted in the certification of the Buffalo Section as the exclusive representative in a mixed unit of 233 professional and nine nonprofessional employees.

ESA, EJC and NSPE contended that NLRB's refusal to separate professionals and nonprofessionals, in the absence of approval of the commingling by the professionals, was a violation of the law. They rested their claim that the court could take jurisdiction on: (1) The fact that the engineers had exhausted their administrative remedies and (2) the legal doctrine that departures by administrative agencies from statutory requirements may be enjoined in a District Court.

The NLRB contended that the purpose of Sec. 9 (b) (1) is to prevent the interests of professional employees from being "submerged" in a heterogenous unit and that it is inapplicable when the unit is predominantly professional and the nonprofessionals have a close community of interest with the professionals.

The board contended that the court lacked jurisdiction to hear the case because there had been no departure from statutory requirements and because Congress had deliberately intended that a District Court could not review an NLRB determination of a bargaining unit.

State Action Urged

Better state labor laws are necessary, Mitchell claims

Secretary of Labor James P. Mitchell last week said the states must improve their labor laws or the federal government may be forced to assume a greater role in the field of social legislation.

Speaking in Florida at the 39th convention of the International Association of Governmental Labor Officials, Mitchell placed particular emphasis on the need for improvements in unemployment compensation, workmen's compensation, disability insurance and safety laws.

So far, he said, the states have failed to carry out the jobless benefit recommendations made last year by President Eisenhower. In only five states have weekly maximum benefits been raised to 50% of average wages and in only

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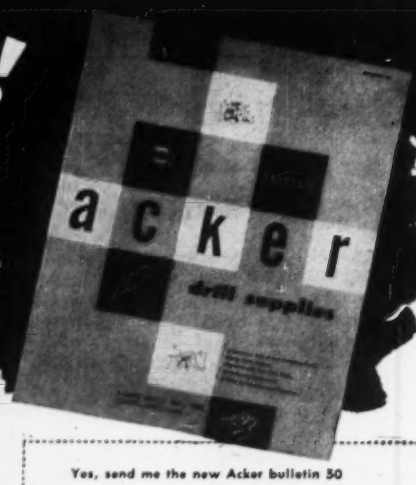

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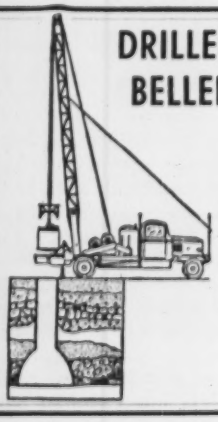

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six states has the duration of benefits been extended to at least 26 weeks.

Although 45 states did raise unemployment compensation benefits last year, Mitchell continued, the laws are out of date and need to be brought abreast of new developments in both medicine and vocational rehabilitation.

Mitchell asked that "immediate attention" be given to the problem of temporary disability insurance. Such programs now exist in four states only.

On a broader front, Mitchell urged the states to exert greater leadership in the promotion of harmonious labor-management relations, in the development of more effective accident prevention programs and in the improvement of state mediation and conciliation services. President Eisenhower, he said, would again ask Congress for a federal-aid bill to provide states with money to improve their safety programs.

In all these fields, Mitchell asserted, the fundamental responsibility for improvements lies with the states, but the responsibility of the federal government increases "to the extent that the states neglect their responsibility."

Teamster Joint Council Refuses to Seat Locals

The struggle for control of the 125,000 teamsters in 57 accredited locals affiliated with Joint Council 16 in New York moved into another phase last week when the International Brotherhood of Teamsters asked the council to seat and accredit representatives of seven locals that the council had refused to recognize.

The seven locals played a prominent role last spring in the efforts of John J. O'Rourke to wrest the council presidency from incumbent Martin T. Lacey. O'Rourke reportedly had the backing of James Hoffa, influential teamster official and chairman of the Central Conference. A dispute over the validity of some of the votes cast in the Lacey-O'Rourke election ended up in a Federal District Court, which enjoined O'Rourke from taking over the presidency and left Lacey in control. The hasty and irregular chartering of the seven locals in question on the eve of the election, the court said, "could have had no purpose except an unwarranted interference with the election." If the current efforts to seat the locals should succeed, the votes cast by their representatives might mean an O'Rourke victory in the next election.

Lacey has taken the position that the court injunction precludes recognition of the locals, and the council has indicated it will not comply with the international's request.

Prevailing Wages

Highway provision called a threat to local wage rates

A spokesman for the South Carolina construction industry has asserted that the prospects of an expanding construction market within the state "are somewhat dimmed by increased costs that will be brought on by government-inspired wage competition."

Addressing the South Carolina Masonry Association on Nov. 29, Charles H. Lesesne, executive director of the Carolinas Branch of the Associated General Contractors of America, said the U. S. Department of Labor can now determine minimum wages for building and highway construction and "not even the public nor the contractors can contest these decisions in court". Further "federal meddling" can be expected, he said, when "the politicians and organized labor cuddle up on a love seat" during the next session of Congress.

The prevailing wage provisions of the Davis-Bacon Act—which has been extended from time to time to several specific forms of federally-assisted construction—were carried over to the federal highway program and apply to the interstate system only. The law requires that laborers and mechanics be paid rates "not less than those prevailing on the same type of work on similar construction in the immediate locality" as determined by the Secretary of Labor after consultation with state highway departments. To assure the accuracy of determinations, the Labor Department is encouraging voluntary participation in its wage determination program by contractors and labor.

Lesesne pointed out that "increased" wage rates on new highway projects can "upset the local wage picture" in many areas.

"The result," he said, "will be that contractors will be bidding for the already short supply of skilled workmen. The public will have to pay for the higher costs or forget about some of the planned improvements for schools, local roads and streets, and water and sewer installations. That is what federal interference can do".

According to Stuart Rothman, U. S. Labor Department solicitor, however, the Davis-Bacon Act is designed "to prevent the lowering of prevailing wage rates, not to increase the rates"—a fact often stressed by the building trades themselves—and "has been a stabilizing influence in the construction industry". Although wage determinations are not subject to judicial review, they may be challenged administratively. Rothman has reported that last year 23,000 wage determinations, embracing more than 1 million craft minimums, were issued; of these, only 600 or 700—representing seven hundreds of one percent—were protested.

Safety Program Started With Eller as Chairman

The construction industry in New York is the next target of the state's new consultative approach to worker safety.

A cooperative labor-management safety campaign was launched by the state last summer. Its first program was for the foundry industry.

In announcing this week the formation of a special group to advise the state Labor Department in its effort to supplement inspection with consultation services in the construction industry, Industrial Commissioner Isador Lubin said, "We have selected the construction industry for special attention because nationally it has the highest injury frequency rate for all major industry divisions, even equalling or exceeding mining, and because the facts indicate that a comparable situation exists in New York State."

Peter W. Eller, board chairman of the Building Trades Employers' Association of New York City, has been named chairman of the advisory group, which includes representatives of labor, insurance, builders and heavy construction contractors.

Labor Briefs . . .

• **Case dismissed**—The U. S. District Court for the District of Columbia has killed the lathers' efforts to prevent the NLRB from holding an unfair labor practice hearing on a jurisdictional dispute with Cleveland Carpenters over ceiling work without first holding a Sec. 10(k) hearing. Court said it had no jurisdiction.

• **Homes and loans**—Bricklayers' President Harry Bates last week severely criticized government authorization of a 5% interest rate on FHA mortgages. Instead of pricing more families out of the housing market, he said, Congress should prepare and launch an effective housing program for families in the middle-income group.

• **Conference scheduled**—The AFL-CIO Building and Construction Trades Department, which was instrumental in getting the Mitchell committee on Taft-Hartley Act revisions established, has scheduled its Third National Legislative Conference for Mar. 11-14 in Washington, D. C.

OFFICIAL PROPOSALS

Bids: January 2, 1957

Cape May County Bridge Commission Cape May Court House, New Jersey

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CORSON INLET BRIDGE
ADDITIONS TO
ELECTRICAL EQUIPMENT
ON BASCULE SPAN

Dated: December 4, 1956

Sealed bids for additions to the electrical equipment on the bascule span of the Corson Inlet Bridge will be received by the Cape May County Bridge Commission in its offices at Cape May Court House, New Jersey, until 2 P.M. Eastern Standard Time, Wednesday, January 2, 1957, and then at said place, publicly opened and read aloud.

The work consists generally of the addition of the electric motor and auxiliary equipment required to operate the bascule span of the Corson Inlet Bridge as shown on the Plans.

The Information for Bidders, Proposal, Contract, Contract Bond, Plan and Specifications may be examined at the office of the Commission, First National Bank Building, Cape May Court House, New Jersey, and at the office of Howard, Needles, Tammen & Bergendoff, Consulting Engineers, 99 Church Street, New York 7, N. Y.

Contract documents will be furnished for $5.00 for each set, upon application to the Commission or to the Consulting Engineers. The payment will not be refunded and contract documents are not required to be returned.

The Contract will be awarded or the proposals rejected within thirty (30) days from the date of opening proposals. The Commission reserves the right to waive any informalities in and to reject any or all bids.

Cape May County Bridge Commission
Charles B. Middleton, Chairman

Bids: December 19, 1956

Washington Suburban Sanitary Commission

CONTRACT NO. 1909
FURNISHING AND DELIVERING
CEMENT

Sealed proposals for furnishing and delivering approximately twenty-five-hundred (2,500) barrels of Type I Portland Cement will be received in the office of the Purchasing Agent, Room G-13, of the Washington Suburban Sanitary Commission, 1017 Hamilton Street, Hyattsville, Maryland until Wednesday, December 19, 1956 at 10:30 A.M., Eastern Standard Time, at which time and place they will be publicly opened and read.

Specifications may be obtained from S. Z. Salsberry, Purchasing Agent of the Commission.

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U. S. Government

SET ASIDE FOR SMALL BUSINESS
DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Invitation No. 18-4814) will be received at Denver, Colorado, until January 15, 1957, for furnishing nine 2-foot 3-inch by 2-foot 3-inch high pressure gate valves, with nine 49,000-pound hydraulic hoists for Casitas Dam, Ventura River Project, California. Delivery is desired within 180 days. For particulars, address Bureau of Reclamation, Building 53, Denver Federal Center, Denver 2, Colorado. W. A. Dexheimer, Commissioner.

OFFICIAL PROPOSALS

Bids: December 20, 1956

New York State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of the Highway Law, Article 2, Title 9 of the Public Authorities Law, and special provisions for projects financed with Federal Aid Funds, sealed proposals will be received until ten-thirty o'clock A.M., eastern standard time on the 20th day of December 1956, by Henry A. Cohen, Director, Bureau of Contracts and Accounts, 14th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects:

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
DISTRICT No. 1, G. L. Nickerson, District Engineer, 353 Broadway, Albany 1, N. Y.						
Albany	B.T. 56-4	New York State Thruway—Berkshire Section—Sub. B-1-A (Hudson River Bridge—West Approach)	3.38	9" Cem. Conc. Pavt. 2 @ 25' Wide=3.34 Mi.; Misc. Work=0.04 Mi.; 2 Hy. Seps. Comp. I-Beams 246.6' and 156.9'; 1 RR Sep. Comp. I-Beam 280.1'	$170,000 Plans $25	$3,138,000
Rensselaer	B.T. 56-3	New York State Thruway—Berkshire Section—Sub. B-1-B (Hudson River Bridge—East Approach) and 3 Cross Roads	4.33 (0.92 Acc.)	9" Cem. Conc. Pavt. 2 @ 25' Wide=4.28 Mi.; Bit. Mac. Ty. 1=0.92 Mi.; Misc. Work=0.05 Mi.; 6 Hy. Seps. Comp. I-Beams 164.8', 165.6', 238.9' 241.3', 193.5' and 200.5'	$265,000 Plans $50	4,892,000
DISTRICT No. 3, W. Robinson, District Engineer, Weigh Lock Building, Syracuse, N. Y.						
Oswego (Rte. 3)	FAC 56-7 FASH 56-5 FARC 56-61	Fulton-Hannibal, S.H. 772; Fulton-Volney, S.H. 1427; Fulton-Hannibal, Pt. 3; City of Fulton: East-West Arterial Project U-624(3)	3.51	9" Cem. Conc. Pavt. 24'-64' Var. Wide=1.81 Mi.; Asp. Conc. Ty. 2A=1.70 Mi.	$64,000 Plans $15	1,168,000
DISTRICT No. 4, B. F. Perry, Barge Canal Terminal, Rochester 1, N. Y.						
Livingston (Rte. 36)	FARC 56-103	Caledonia-Mount Morris, Pt. 4, S.H. 5665 Project F-1053(4)	0.30	9" Cem. Conc. Pavt. 24'-36' Wide=0.29 Mi.; Misc. Work=0.01 Mi.; Continuous Girder Br. 340'	$25,000 Plans $15	467,000
DISTRICT No. 5, E. G. H. Youngmann, District Engineer, State Office Bldg., 65 Court St., Buffalo 2, N. Y.						
Erie	FINTC 56-11 PSC 9058	New York State Thruway—Niagara Section—Sub. N5. Elimination of the Grade Crossing of the N.Y.C. R.R. and Porter Avenue, City of Buffalo Project I-865(13)	1.92 (0.92 Acc.)	Railroad Relocation=1.25 Mi.; 9" Cem. Conc. Pave. Var. Wide=0.77 Mi.; Asp. Conc. Opt.=0.59 Mi.; Misc. Work=0.23 Mi.; R.R. & Hy. Sep. Comp. I-Beam 192.5'; Ramp Comp I-Beam 223'	$65,000 Plans $25	1,174,000
Erie (Rte. 78)	FARC 56-85	Transit Road, Pt. 4, S.H. 1334A-1 Project U-651(7)	1.38	Asp. Conc. Opt.=1.33 Mi. Misc. Work=0.05 Mi.	$25,000 Plans $10	461,000
Erie	NT 56-7 NTC 56-8 STC 56-10	New York State Thruway—Niagara Section—Subs. N1 and N2 (Rossler-Clinton Sts.)	1.41 (2.27 Acc.)	9" Cem. Conc. Pavt. 2 @ 37' Var. Wide=2.02 Mi.; Asp. Conc. Ty. 2B=1.26 Mi.; Misc. Work=0.40 Mi.; 3 Hy. Seps. Comp. I-Beams 216.3', 191.8' and 217.8'	$230,000 Plans $50	4,150,000
Niagara (Rtes. 384 & 265)	FAC 56-12	City of North Tonawanda: River Road Arteria: (Schenck Street to North City Line) Project U-865(12)	2.51	Asp. Conc. Ty. 2A	$74,000 Plans $25	1,339,000
DISTRICT No. 6, J. H. Thomas, District Engineer, State Office Bldg., 30 W. Main St., Hornell, N. Y.						
Chemung (Rte. 17E)	FARC 56-102	Big Flats—Fitch Bridge, S.H. 8411 Fitch Bridge—Elmira, S.H. 946 Project F-U-596(4)	2.05	Asp. Conc. Opt.	$65,000 Plans $25	1,136,000
DISTRICT No. 8, K. G. Rauer, District Engineer (Acting), Pleasant Valley Road, Poughkeepsie, N. Y.						
Columbia	BT 56-2 RC 56-104	New York State Thruway—Berkshire Section—Sub. B-3-B, (Co. Rd. 27 to Mass. St. Line); Austerlitz-Flatbrook-New Lebanon, Pts. 1A and 1C and Flatbrook-Massachusetts State Line, S.H. 8514 and Various Access and Cross Roads	7.50 (5.87 Acc.)	9" Cem. Conc. Pavt. 2 @ 25' Var. Wide=9.38 Mi.; Bit. Mac. Ty. 1=3.91 Mi.; Misc. Work=0.08 Mi.; 3 Hy. Seps. Comp. I-Beams 258.8', 276.7' and 313.5'; 1 Hy. Sep. Weld. Comp. Plate Gird. 500.6'	$460,000 Plans $100	8,569,000
Westchester	PSC 5942	Elimination of Grade Crossings of the N.Y.C. R.R. with Bedford Road and Manville Road in the Village of Pleasantville	1.44 (0.15 Acc.)	Railroad Revocation=1.44 Mi.; 8" Cem. Conc. Pavt.=0.13 Mi.; Asp. Conc. Opt.=0.02 Mi.; Relocation of R.R. Passenger Station and R.R. Freight House; 2 RR Seps. Comp. I-Beams 65' and 64.3'	$213,000 Plans $50	3,857,000
Westchester	FICWE 56-1	Interstate Route Connection No. 1—Cross Westchester Expressway (White Plains Section) (Project I-1101(1)	4.26 (10.52 Acc.)	9" Cem. Conc. Pavt. 2 @ 37' Var. Wide=11.93 Mi.; Asp. Conc. Opt.=1.41 Mi.; Misc. Work=1.44 Mi.; 22 Bridge Structures, Various Types From 30.5' to 1293' Spans	$745,000 Plans $100	13,576,000
DISTRICT No. 10, M. E. Gout, District Engineer, 325 W. Main St., Babylon, L. I., New York						
Bronx	FAMDE 56-2	Major Deegan Expressway and Extension Cont. 19 (138th St. to N.Y. City—West. Co. Line) Project U-1082(23)	7.33	Miscellaneous Work	$9,500 Plans $15	171,000
Nassau (Rte. 101)	FARC 56-69	Middle Neck Road, S.H. 9019 Project U-541(10)	2.89	9" Cem. Conc. Pavt. 2 @ 25' Wide=1.59 Mi.; Asp. Conc. Opt.=1.13 Mi.; Misc. Work=0.17 Mi.	$93,000 Plans $15	$1,690,000
Nassau (Rte. 27)	FARC 56-105 FASS 56-6	Conduit Boulevard, Pt. 3, S.H. 1699A (Sunrise Highway—Merrick Rd. Interchange); Merrick Road, C.R. 10 Project U-947(12); S-498(1)	0.62 (1.26 Acc.)	9" Cem. Conc. Pavt. 2 @ 36'-46' Var. Wide; 2 Hy Seps. Comp I-Beams 66' and 276.2'; 1 Ped. Overpass Weld. Pl. Girder 94.5'; Reinf. Conc. Box Culvert Br. (Ext.)	$150,000 Plans $50	2,846,000

Any projects in this letting that are on the Federal Aid highway systems are subject to the provisions of the "Federal-Aid Highway Act of 1956", being Public Law 627, 84th Congress, approved June 29, 1956, and are also subject to the applicable New York State statutes.

In compliance with the provisions of Section 115 (Prevailing Rate of Wage) Public Law 627, the minimum wages to be paid laborers and mechanics are included in wage schedules that are set out in the bid proposal.

Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts and Accounts, Albany, N. Y., and at the office of the District Engineers noted above, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for Plans and Proposal Forms for each contract is indicated above. A refund will be made in full to bidders for return of one set, in good condition, within 30 days of award, or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

Special attention of bidders is called to "General Information for Bidders" in the proposal, specification, and contract agreement, and to the special provisions applying to projects financed with federal funds. Award of a contract is subject to priorities and allocations under the Defense Production Act of 1950, as amended, and all regulations issued thereunder.

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by draft or certified check payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Laws, as set forth in "Instructions to Bidders".

The right is reserved to reject any or all bids.

JOHN W. JOHNSON
SUPT. OF PUBLIC WORKS

COMMONWEALTH OF MASSACHUSETTS. Department of Public Works. NOTICE TO CONTRACTORS: Sealed proposals for Constructing a Section of South East Expressway in City of Boston (Contract C) F. A. U354(1) will be received at Room 427, 100 Nashua Street, Boston, Mass., until 2:00 P.M. of THURSDAY, JANUARY 3, 1957 and at that place and time publicly opened and read. Proposal guaranty: $193,000. Charge for plans and proposal forms: $50.00, amount returnable only to bidders. Complete information at said office; plans on display at District office in Taunton. Minimum wage and dump-truck rates have been established. Right reserved to waive any informality in or reject any or all proposals. An award will not be made to a Contractor who is not equipped to undertake and complete the work. By: CARL A. SHERIDAN, Commissioner of Public Works. December 8, 1956.

COMMONWEALTH OF MASSACHUSETTS. Department of Public Works. NOTICE TO CONTRACTORS: Sealed proposals for State Highway and Bridge Work on Amvets Memorial Highway (Route 138) (Fall River Expressway) in the Towns of CANTON and STOUGHTON (U-344(7) will be received at Room 427, 100 Nashua Street, Boston, Mass., until 2:00 P.M. of Tuesday, December 18, 1956 and at that place and time publicly opened and read. Proposal guaranty: $100,000.00. Charge for plans and proposal forms: $20.00, amount returnable only to bidders. Complete information at said office; plans on display at District office in Taunton. Minimum wage and dump-truck rates have been established. Right reserved to waive any informality in or reject any or all proposals. An award will not be made to a Contractor who is not equipped to undertake and complete the work.
By: CARL A. SHERIDAN, Commissioner of Public Works
December 1, 1956

OFFICIAL PROPOSAL

RATE: $2.10 per line (or fraction) per insertion.

CLOSING DATE: 10:30 a.m. Friday for issue out following Thursday.

SEND COPY: Official Proposal Division, Engineering News-Record, 330 W. 42nd St., New York 36, N. Y.

OFFICIAL PROPOSALS

Bids: January 8, 1957

Contract NYA-650.042

ADVERTISEMENT
THE PORT OF NEW YORK AUTHORITY
NEW YORK INTERNATIONAL AIRPORT
VAN WYCK APPROACH ROAD

ALTERATIONS TO LIGHTING SYSTEM

Sealed proposals for alterations to the existing lighting system for the Van Wyck Approach Road at New York International Airport will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P.M. on Tuesday, January 8, 1957, at which time said proposals will be opened and read in Room 1108.

Contract documents may be seen at the office of the Engineer of Design of the Authority, Room 1115. Documents will be furnished upon deposit of $30.00 per set for not more than three sets to any one company (each set including one copy of the contract drawings). Additional sets will be furnished upon payment of $30.00 per set, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001, where a receipt in duplicate will be issued. A copy of the receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman

New York, December 13, 1956

Bids: January 8, 1957

Contract PN-340.005

ADVERTISEMENT
THE PORT OF NEW YORK AUTHORITY
PORT NEWARK
BUILDINGS NOS. 290, 291, 292 and WHARF
RECONSTRUCTION OF WHARF

Sealed proposals for the reconstruction of a wharf on the North side of the City Channel at Port Newark will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P.M. on Tuesday, January 8, 1957, at which time said proposals will be opened and read in Room 1108.

Contract documents may be seen at the office of the Engineer of Design of the Authority, Room 1115. Documents will be furnished upon deposit of $30.00 per set for not more than three sets to any one company (each set including one copy of the contract drawings). Additional sets will be furnished upon payment of $30.00 per set, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001, where a receipt in duplicate will be issued. A copy of the receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman

New York, December 13, 1956

Bids: December 21, 1956

Washington Suburban Sanitary Commission

CONTRACT NO. 1903-W
FURNISHING AND DELIVERING WATER METERS

Sealed proposals for furnishing and delivering four-thousand-five-hundred (4,500) ⅝-inch; two-thousand (2,000) ¾-inch; sixty (60) 1-inch and forty (40) 1½-inch DISC WATER METERS will be received in the office of the Purchasing Agent, Room G-13, of the Washington Suburban Sanitary Commission, 4017 Hamilton Street, Hyattsville, Maryland until Friday, December 21st, 1956 at 10:30 A.M., Eastern Standard Time, at which time and place they will be publicly opened and read.

Specifications may be obtained from S. Z. Salsberry, Purchasing Agent of the Commission.

T. Earle Bourne, Chairman
Frank L. Hewitt, Jr., V-Chairman
J. Norman Ager
James B. Bland
Willard A. Morris
L. S. Ray
Commissioners

Attest: John T. Bonifant
Secretary

COMMONWEALTH OF MASSACHUSETTS. Department of Public Works. NOTICE TO CONTRACTORS: Sealed proposals for constructing a section of State Highway, auto Rte. 140 as relocated, in the Towns of FREETOWN & LAKEVILLE—F 120 (11) will be received at Room 427, 100 Nashua Street, Boston, Mass., until 2:00 P.M. of Thursday, December 27, 1956 and at that time and place publicly opened and read. Proposal guaranty: $60,000. Charge for plans and proposal forms: $20.00 amount returnable only to bidders. Complete information at said office; plans on display at District office in Taunton. Minimum wage and dump-truck rates have been established. Right reserved to waive any informality in or reject any or all proposals. An award will not be made to a Contractor who is not equipped to undertake and complete the work. By: CARL A. SHERIDAN, Commissioner of Public Works. December 8, 1956.

Bids: January 8, 1957

Power Authority of the State of New York

BARNHART - PLATTSBURGH TRANSMISSION PROJECT
ADVERTISEMENT FOR PROPOSALS
FOR
THE FURNISHING AND DELIVERY OF
200 MVA AUTOTRANSFORMER
SPECIFICATION NO. PA-6-26
CONTRACT NO. TP1

NOTICE TO CONTRACTORS: The POWER AUTHORITY OF THE STATE OF NEW YORK will receive sealed proposals for the design, manufacture and furnishing of one (1) 200 mva three phase autotransformer and associated equipment and delivery thereof, f.o.b cars at destination until 10:30 A.M. Eastern Standard Time on the 8th day of January, 1957, at the Authority's office, 270 Broadway, Room 1305, New York, New York, at which time and place proposals will be publicly opened and read aloud.

Bids will be entertained for the autotransformer and associated equipment and services in accordance with the bidding schedule. Installation of the autotransformer and associated equipment will be done by others, but services of erecting engineers shall be provided by the manufacturer when and if required. Delivery of the autotransformer and associated equipment will be required May 15, 1958.

Specifications and Proposal Forms for the work will be on file in the Authority's office and in the offices of the Engineer, Uhl, Hall & Rich, 230 Congress Street, Boston 10, Massachusetts and may be inspected by prospective bidders during office hours, and may be obtained from the Power Authority of the State of New York, 270 Broadway, Room 1300, New York 7, New York, upon application and prepayment of a fee of Ten ($10.00) Dollars for initial set of Contract Documents and Five ($5.00) Dollars for each additional set, no part of which will be refunded. Two sets must be returned with each bid.

Bids will not be restricted to American manufacturers.

Bids must be made in duplicate in accordance with instructions contained in the Information for Bidders. Guarantee will be required with each bid in an amount not less than 10% of the gross sum bid.

The right is reserved to reject any or all bids.

W. S. CHAPIN
General Manager

Bids: January 8, 1957

New Jersey Turnpike Authority

CONTRACT NO. 118

Proposals are invited for Contract No. 118 which involves landscaping at certain Service Areas and Interchanges along the New Jersey Turnpike in Salem, Gloucester, Camden, Burlington, Mercer and Middlesex Counties, together with the maintenance and guarantee of new and existing landscaping at such locations for specified periods.

Proposals will be received at the New Jersey Turnpike Authority, Administration Building, New Brunswick, New Jersey until 11:00 o'clock, Eastern Standard Time, on the morning of January 8, 1957, at which time and place said proposals will be publicly opened and read.

Bidders must submit with their proposal a Contractor's Financial and Equipment Statement.

Contract Documents may be examined during office hours on or after December 7, 1956, at the office of Alfred Geiffert, Jr., 101 Park Avenue, New York, New York, and at the office of the New Jersey Turnpike Authority, Administration Building, New Brunswick, New Jersey. Contract Documents will be furnished upon payment of Ten Dollars ($10.00) for each set, upon application to the Authority. The payment will not be refunded and contract documents are not required to be returned.

NEW JERSEY TURNPIKE AUTHORITY
Paul L. Troast, Chairman

December 3, 1956

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Development Dept in large N. J. pharmaceutical plant has an excellent opportunity for a young, ambitious engineer with a well rounded background of layout & installation of plant equipment. Field construction & equipment cost estimating experience desirable. Liberal benefit program. Please submit complete resume including salary requirements to

P-3733, Engineering News-Record
Class. Adv. Div. P.O. Box 12, N.Y. 36, N.Y.

WANTED

CIVIL ENGINEER, minimum 5 years experience municipal design, supervision and administration. Eligible for Florida registration.
DRAFTSMAN, varied experience in municipal works and property maps.
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Send NEW ADS to ENGINEERING NEWS-RECORD, P. O. Box 12, N. Y. 36, N. Y.

Attention: Structural Steel Detailers & Estimators

Established Colorado Structural Steel Fabricator has positions for competent Detailers and Estimators who have had experience with structural steel fabricators. Also, have opening for detailers & estimators experienced in reinforcing steel. Give references, picture, salary expected in first letter.

P-3740, Engineering News-Record,
520 No. Michigan Ave., Chicago 11, Ill.

REPLIES (Box No.): Address to office nearest you c/o This publication Classified Adv. Dlv.
NEW YORK: P. O. Box 12 (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

Teaching appointments for September, 1957, available at university-associated College of Engineering in field of Civil Engineering. Salary and rank commensurate with experience and academic qualifications. Primary teaching field open as present faculty is flexible; preference, if any, would be in sanitary engineering and allied fields. Suburban location, Middle West, adjacent to large industrial center. P-3268, Engineering News-Record.

City Engineer: Unusual opportunity for graduate Civil Engineer or equivalent with professional license in southern Pennsylvania city. Experience essential in land surveying, street and sewer design and construction and related municipal work. Experience desirable in zoning and subdivision control. No structural design is involved. Would be in charge of Engineering Department, supervise survey crew and draftsmen, and would be expected to meet the public as required. Salary range $7,000 to $8,500 with usual benefits. Permanent non-political position for right man. Send resume of training and experience to: Borough of Chambersburg, 100 South Second Street, Chambersburg, Pa. Attention: J. G. Cree.

Young or middle aged man that desires a permanent position with a progressive construction concern located in the Pittsburgh area. Experience in estimating, and construction management desirable. Write stating full educational, employment, and personal data. Your inquiry will be kept confidential, and answered promptly. P-3559, Engineering News-Record, Classified Advertising Division, P. O. Box 12, New York 36, New York.

Engineers for municipal and industrial water supply, sewerage and treatment projects. Opportunities for permanent connection with long established firm of consulting engineers in mid-west. Both E.I.T.'s and engineers considered. Full information and references in first letter requested. P-3116, Engineering News-Record.

Designers—Steel, Concrete, Electrical Piping. Air-Cond., Power Plants & Industrial Bldgs. Marbarry Corp., 120 Greenwich St., N.Y.C. Rector 2-3749.

Designer-Draftsman. Several positions open in structural, mechanical, or civil engineering in established engineering firm in Florida. Black and Associates, Inc., 700 S. E. 3rd Street, Gainesville, Florida.

Wanted: Draftsmen, also Bridge Designers and Highway Designers, preferably with some field experience for major highway and bridge projects. Forward education and experience records along with salary requirements. Brookhart & Tyo, Consulting Engineers, 1729 N. Front Street, Harrisburg, Penna.

Engineers and draftsmen structural for steel and concrete design Public Buildings. Consulting Engineers office. Call or write giving training and experience. Saul Shaw & Co., 24 Commerce St., Newark, N. J.

WANTED

ENGINEER or DRAFTSMAN, exp. in drafting, quantity estimating, field layout work.
BOOKKEEPER, exp. with typing ability.
CLERK, Administrative Asst., exp. with typing ability.
CARPENTRY FOREMAN, exp. on heavy concrete work.

For General Contractors, write
P. O. Box 126, Wilmington, Del.

POSITIONS VACANT

Assist. Prof.—To teach undergrad. courses in structures and applied mech. Salary depends on qualifications. Dept. of Civil Eng., Univ. of No. Dakota, Grand Forks, N. Dak.

Graduate Civil Engineers not over 30 and preferably single. Must have military training completed and interested in the building construction business, starting in the field. We offer opportunity for rapid advancement to ambitious, hard-working young men willing to accept responsibility. Starting salary $100.00 per week if unexperienced with higher wages for those with some experience. Send complete history data. Martin K. Eby Construction Co., Inc., 610 N. Main, Wichita 5, Kansas.

Field Superintendent: Reliable General Contractor with forty year clientele interested in contacting experienced field superintendent for handling large and moderate size construction jobs within 300 mile radius of Chicago. Apply P-3650, Engineering News-Record.

Wanted: Job Superintendent for midwest building construction company. Age 30 to 50. Salary and bonus if qualified. Submit education, experience, qualifications, starting salary. P-3633, Engineering News-Record.

Position open with growing Midwest contractor to handle sewerage and waterworks projects, both underground and treatment plants, from estimating, bidding to completion on percentage of profits basis. Facilities available to handle 3-4 million dollar volume yearly. Build your income as high as your ability. Send qualifications to P-3636, Engineering News-Record.

Associate and Assistant Professors for fields of advanced strength, elasticity, dynamics and fluid mechanics. Start Feb. or Sept. Dept. of Applied Mechanics, Univ. of Kansas, Lawrence, Kansas.

Office Engineer and Assistant Engineer (two positions), desired for progressive Class I, New England Railroad. Immediate placement for men with proper qualifications. State age, references, experience, education, salary required, when applying. All correspondence confidential. P-3730, Engineering News-Record.

Equipment Maintenance Superintendent. A challenging position is now open to the right man to take charge of one of the largest fleets of on and off highway trucks, bulldozers, cranes, shovels, and other contractors' equipment in the United States. Please write, giving employment history and salaries earned. P-3735, Engineering News-Record.

Chief Estimator — Eastern Massachusetts must be able to take complete charge of estimating department of building division of large construction firm. Please furnish resume of qualifications and salary requirements. P-3691, Engineering News-Record.

Manufacturing Engineer—Nationally known expanding manufacturer has several Production Engineering openings for young graduate Mechanical or Electrical Engineers with 2-3 years engineering experience in industry. Positions involve development of new manufacturing methods, cost reduction, new product development, and manufacturing operations control. Unusual opportunity for intelligent aggressive young man who finds himself limited for further advancement and desires more challenge and responsibility. In confidential letter give complete details on age, education, experience, and salary required. P-3703, Engineering News-Record.

(Continued on page 90)

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Engineering degree equivalent plus a minimum of 3 years progressive experience in designing bridges, highways, sewerage and water works, equipment layout and piping systems, industrial buildings, electrical power and lighting systems for defense facilities.

For prompt results provide:

1. Educational background.
2. Chronological list of employers.
3. Details of design experience.
4. References who know your engineering ability.
5. Salary requirements and past salary record.
6. Date for interview at our expense.

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CIVIL ENGINEERS SURVEYORS

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Personnel needed to complete technical party. Work involves design and supervision of construction of highways and bridges in South Vietnam. Duties include instruction of on-the-job trainees. High degree of initiative, judgment and skill in handling human relations required in addition to professional competence. All personnel must be experienced and able to provide references. Eighteen-month minimum employment agreement. Dependents not authorized to accompany field personnel. Only those interested in difficult and challenging work should apply. The following positions are open:

Highway Construction Engineers (Field)—Must also have experience in design and location.

Senior Bridge Engineer—Experienced in both design and construction. Should have some experience in design of movable spans.

Soils Engineers—Should be fully qualified to initiate and maintain materials testing program on above project.

Party Chiefs (Field)—Must have some knowledge of design, and experience in both location and construction layout.

Instrumentmen (Field)—Fully qualified to operate and maintain usual surveying instruments without supervision.

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Consulting Engineers

Dillsburg, Pennsylvania

Engineers Architects

Highway Designers—Draftsmen
Rochester & Harrisburg, Pa., Jackson, Miss. & Ft. Lauderdale, Fla.

Bridge Designers—Draftsmen
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Architectural Designers—Draftsmen
Rochester, Pa.

Civil Engineering Draftsmen
Jackson, Miss.

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Rochester, Pa., Jackson, Miss.

Air Mail Resume TO R. L. SHAW, *Personnel Director*

MICHAEL BAKER, Jr., INC.

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802 Dwight Building Kansas City 5, Mo.

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Manager of Employment & Placement
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RW-3576, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

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P-3704, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

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Class. Adv. Div., P. O. Box 12, N. Y. 36, N. Y.

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P-3371, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

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P-3619, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

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P-3631, Engineering News-Record
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POSITIONS VACANT
(Continued from page 86)

Estimator for Estimating Department in Home Office of large building contractor. Permanent position with opportunity for advancement with aggressive, growing company operating throughout the U. S. Experience in estimating desirable but not essential. Write stating fully education, employment, salary requirements, military status and personal data to Blount Brothers Construction Company, P. O. Box 949, Montgomery, Alabama.

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City of Kewanee, Illinois, City Engineer excellent opportunity for graduate Civil Engineer to head Engineering Department in beautiful Midwest City of 17,000 Pop. Located in N. W. part of State where farm and factory meet. Duties include Engineering, and supervision of water, sewer and street departments. Successful applicant would be expected to deal with Public in problems arising in the Engineering Department. Salary $6,600-$7,200—Send education and past experience. Resume to: W. D. Pharmer, City Hall, Kewanee, Illinois. Phone 5986.

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Superintendent—25 yrs. practical experience, business-engineering background for Highway construction & or allied operations. PW-3580, Engineering News-Record.

Surveying field party, 3 or 4 men, fully equipped, well exp. in all types of work. Under Licensed supervision. Willing to travel. PW-3667, Engineering News-Record.

Civil Engineer, BSCE, MS in Eng., age 30, 8 years of diversified civil and sanitary engineering experience in design, specifications, construction and bidding. PW-3638, Engineering News-Record.

POSITIONS WANTED

Executive—Management Capacity. Contractors Engineer. Sound progressive background in heavy construction: superintendence; engineering — planning, reports, estimating, scheduling and cost; contracts and subcontracts. BSCE; Registered Professional Engineer; age 38, married. Prefer to locate with reasonable permanence west of Mississippi or south. PW-3634, Engineering News-Record.

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Structural Engineer, BCE, MCE, Registered, age 26, 5 yrs experience in design and supervision of design of all types of structures, desires position overseas, office or field, prefer Hawaii, S. A. or Europe. PW-3697, Engineering News-Record.

Construction Supt. or Assist. available. PW-3743, Engineering News-Record.

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Construction Superintendent 25 years experience in supervising the construction of industrial projects. Prefer school buildings. Can give the best of references. Available anytime. Can Travel. PW-3738, Engineering News-Record.

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Construction Superintendent: 25 years experience, field supervision constructing industrial, commercial, institutional bldgs; large scale housing, churches, etc. Desires similar position with reliable organization; will travel. PW-3732, Engineering News-Record.

Architectural Specification Writer, nine years experience private and civil service work. PW-3513, Engineering News-Record.

Civil Engineer graduate, 25 years Public Works administrative and executive experience. Registered in Florida. Would consider partnership in Florida consulting firm. PW-3681, Engineering News-Record.

PE-NY MCE Signal 28 5 yrs struct. bridge engr. Seek career employ demanding broad application of engr. NYC DC. PW-3677, Engineering News-Record.

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Construction Takes the Rap

THE MIDDLE EAST CRISIS, which stemmed from a construction decision—turndown of Egypt on its Aswan Dam—continues to have as many construction as political and military overtones. Clearing of the SUEZ Canal is one, but recent concentration on this problem has diverted attention from a second result of the Middle East war—the cutting of the oil pipelines from the Kirkuk fields of Iraq. It is true that the pipelines deliver only one-third as much oil as the canal, but the quantity is impressive none the less—on the order of 175 million barrels annually. Furthermore, the stoppage of this oil flow has a significance beyond its effect on Europe's oil shortage—it cuts off Iraq's revenue, 75% of which is being applied to the Middle East's most notable public-works-for-a-raised-standard-of-living program.

Some $50 million has been spent annually by Iraq over the past three years to control, store and use the waters of the Tigris and Euphrates Rivers. Other public works—water supply, sanitation, communications, hospitals and factories—also have been planned in a five-year, multi-million dollar program. The heightened prosperity, which these expenditures induce and foreshadow, has also stimulated private investment until Baghdad is one of the real boom cities of the world.

Cutting the pipelines could lead to a stoppage, and will certainly cause delay, in this development program. This could have serious political repercussions since the present pro-Western government in Iraq has been counting on the benefits from these public works to give it solid backing from the masses of the people. The program has not advanced far enough for these benefits to be felt, although a big flood would show how two of the completed units, the Wadi Tharthar and Lake Habbaniya reservoirs, protect Baghdad and down-river lands from damage.

Unfortunately for early resumption of construction work, cutting the pipelines and damaging the pump stations was not solely an act to deprive Europe of oil. It was equally focused on punishing Iraq for its membership in the Baghdad Pact which was designed to counter Russian influence in the area. The pipeline damage occurs in Syria where Russian aid and activity has been welcomed. Warlike gestures by Syria against Iraq, and vice versa, currently being reported, may be only bickering over the back fence, but Soviet encouragement of Syria could lead to some stones being thrown.

That such inter-Arab conflict would also hurt Syria apparently is not considered important by the hotheads in that country. Nevertheless, Syrian revenues from the pipelines and oil—in the neighborhood of $1¼ million a month—go partly to support a sizable development project in that country, which will be delayed by the unrest. This is the big power and irrigation scheme tied to control of the Litani River. The water stored behind a dam under construction on this stream will feed two power plants, whose combined capacity of 84,000 kw will double the country's electric power output, and it will also irrigate 8,500 acres of land along the Mediterranean south of Beirut. The World Bank has loaned $24 million of the $40 million cost of this project.

On balance it is not probable that the pipelines will be back in service as soon as the Suez Canal. Repairing the breaks and, above all, installing new equipment in the burned-out pumping stations, will require considerable time under the best of circumstances. With Syria showing no disposition to permit the repairs to be made, the outlook is made darker. In the meantime construction takes the rap.

Fostering Disrespect for Signs

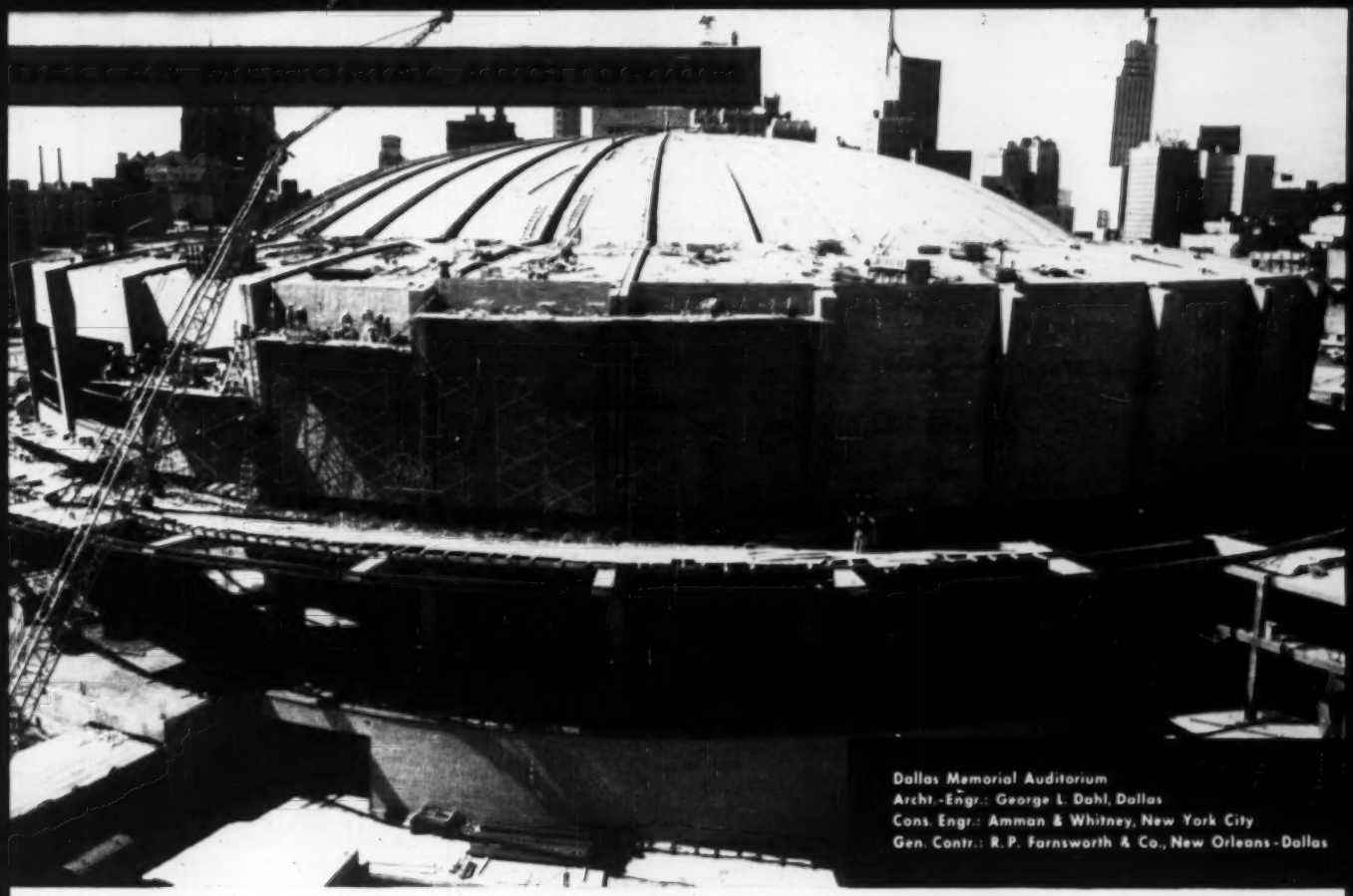
THE THOUGHTLESSNESS of some highway departments in respect to signs set up in connection with highway construction work was the subject of critical comment by Commissioner Charles D. Curtiss of the Bureau of Public Roads at the recent meeting of the American Association of State Highway Officials.

The subject is one needing careful study. Not only do some of those signs not give motorists adequate information as to what to expect on the highway ahead, as the commissioner said, but also they often misinform the motorist.

In far too many places drivers are told to "GO SLOW —CONSTRUCTION AHEAD" long after the work has been completed, or is so nearly complete as to make speed reduction unnecessary. On one main trunk highway in an eastern state, signs calling for a speed of 35 mph because of resurfacing work ahead are well over a mile from where the work now is in progress. As a result, the unknowing driver cuts down his speed and idles along at 35 mph for no apparent reason and with mounting annoyance while the local drivers, knowing where the resurfacing work is in progress, roll past him at normal speed. Such a condition does not build goodwill, and it fosters disrespect for temporary cautionary signs.

As a general rule, it would seem that responsibility for the changing or complete removal of temporary construction signs should rest with the person who authorizes their erection. Certainly it should be definitely fixed and not left to chance. Possibly the help of traffic policemen might be enlisted as a check on forgotten signs, since signs, which slow traffic needlessly, must complicate their work.

In any event, where signs are required, they should give the motorist the maximum amount of information to help him get by the construction work safely; and such signs should be taken down just as soon as the need for them is past.



Dallas Memorial Auditorium
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Cons. Engr.: Amman & Whitney, New York City
Gen. Contr.: R. P. Farnsworth & Co., New Orleans-Dallas

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Laying two-course Texaco Asphaltic Concrete pavement on the Walt Whitman Bridge at Philadelphia.

Texaco Asphaltic Concrete paving serves new Walt Whitman Bridge

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